

# Service Manual

ORDER NO.  
RRV 1729

FILE-TYPE CD PLAYER

# PD-F606

## PD-F506

- Refer to the service manual RRV1457 for PD-F605/KUXJ.

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Type	Model		Power Requirement	Remarks
	PD-F606	PD-F506		
KUXJ	○	○	AC120V	
KCXJ	○	○	AC120V	

- For the circuit and mechanism descriptions, refer to the service guide RRV1469 for PD-F605, PD-F505.

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# 1. CONTRAST OF MISCELLANEOUS PARTS

## NOTES:

- Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.
- The  $\Delta$  mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- When ordering resistors, first convert resistance values into code form as shown in the following examples.

Ex.1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J = 5%, and K = 10%).

560 $\Omega$	$\rightarrow$	56 $\times$ 10 <sup>1</sup>	$\rightarrow$	561	RD1/4PU	561J
47k $\Omega$	$\rightarrow$	47 $\times$ 10 <sup>3</sup>	$\rightarrow$	473	RD1/4PU	473J
0.5 $\Omega$	$\rightarrow$	R50			RN2H	R50K
1 $\Omega$	$\rightarrow$	1R0			RS1P	1R0K

Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62k $\Omega$	$\rightarrow$	562 $\times$ 10 <sup>1</sup>	$\rightarrow$	5621	RN1/4PC	5621F
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## ■ CONTRAST TABLE

PD-F606/KUXJ, PD-F606/KCXJ, PD-F506/KUXJ, PD-F506/KCXJ and PD-F605/KUXJ have the same construction except for the following:

Mark	Symbol & Description	Part No.					Remarks
		PD-F605 /KUXJ	PD-F606 /KUXJ	PD-F606 /KCXJ	PD-F506 /KUXJ	PD-F506 /KCXJ	
$\Delta$ NSP	MOTHER PCB ASSY	PWM1989	PWM2090	PWM2090	PWM2088	PWM2088	
	SUB PCB ASSY	PWX1434	PWX1436	PWX1436	PWX1431	PWX1431	
	FUNCTION PCB ASSY	PWZ3134	PWZ3136	PWZ3136	PWZ3131	PWZ3131	
NSP	POWER SW PCB ASSY	PWZ3145	PWZ3145	PWZ3145	PWZ3143	PWZ3143	
	<b>PACKING</b>						
	Remote Control Unit	PWW1108	PWW1108	PWW1108	Not used	Not used	
	Battery Cover	AZN2249	AZN2249	AZN2249	Not used	Not used	
NSP	Battery (R6P, AA)	AEX - 010	AEX - 010	AEX - 010	Not used	Not used	
	Packing Case	PHG2162	PHG2225	PHG2229	PHG2230	PHG2231	
	Protector F	PHA1299	PHA1309	PHA1309	PHA1309	PHA1309	
	Protector R	PHA1300	PHA1310	PHA1310	PHA1310	PHA1310	
	Operating Instructions (English)	PRB1234	PRB1252	Not used	PRB1252	Not used	
	Operating Instructions (English/French)	Not used	Not used	PRE1250	Not used	PER1250	
NSP	Warranty Card	ARY1051	ARY1051	ARY1075	ARY1051	ARY1075	
	Polyethylene Bag (0.03 $\times$ 230 $\times$ 34)	Z21 - 038	Z21 - 038	Z21 - 038	Not used	Not used	
	<b>EXTERIOR</b>						
	Rear Base	PNA2258	PNA2316	PNA2316	PNA2323	PNA2323	
	Door	PNW2616	PNW2731	PNW2731	PNW2731	PNW2731	
	Control Panel	PNW2649	PNW2704	PNW2704	PNW2719	PNW2719	
	65 Label	ORW1069	ORW1069	Not used	ORW1069	Not used	
	Display Window	PAM1702	PAM1702	PAM1702	PAM1699	PAM1699	
	36P F.F.C/30V	PDD1173	PDD1173	PDD1173	Not used	Not used	
	32P F.F.C/30V	Not used	Not used	Not used	PDD1167	PDD1167	

## ■ CONTRAST OF PCB ASSEMBLIES

### FUNCTION PCB ASSY

PWZ3136, PWZ3131 and PWZ3134 have the same construction except for the following:

Mark	Symbol & Description	Part No.			Remarks
		PWZ3134	PWZ3136	PWZ3131	
	R701 - R704 (10K $\Omega$ )	ACN7011	Not used	Not used	
	Remote Sensor	SBX1785 - 51	SBX1976 - 51	Not used	
	CN701	HLEM36R - 1	HLEM36R - 1	HLEM32R - 1	

### POWER SW PCB ASSY

Although PWZ3143 and PWZ3145 are different in part number, they consist of the same components.

**MOTHER PCB ASSY**

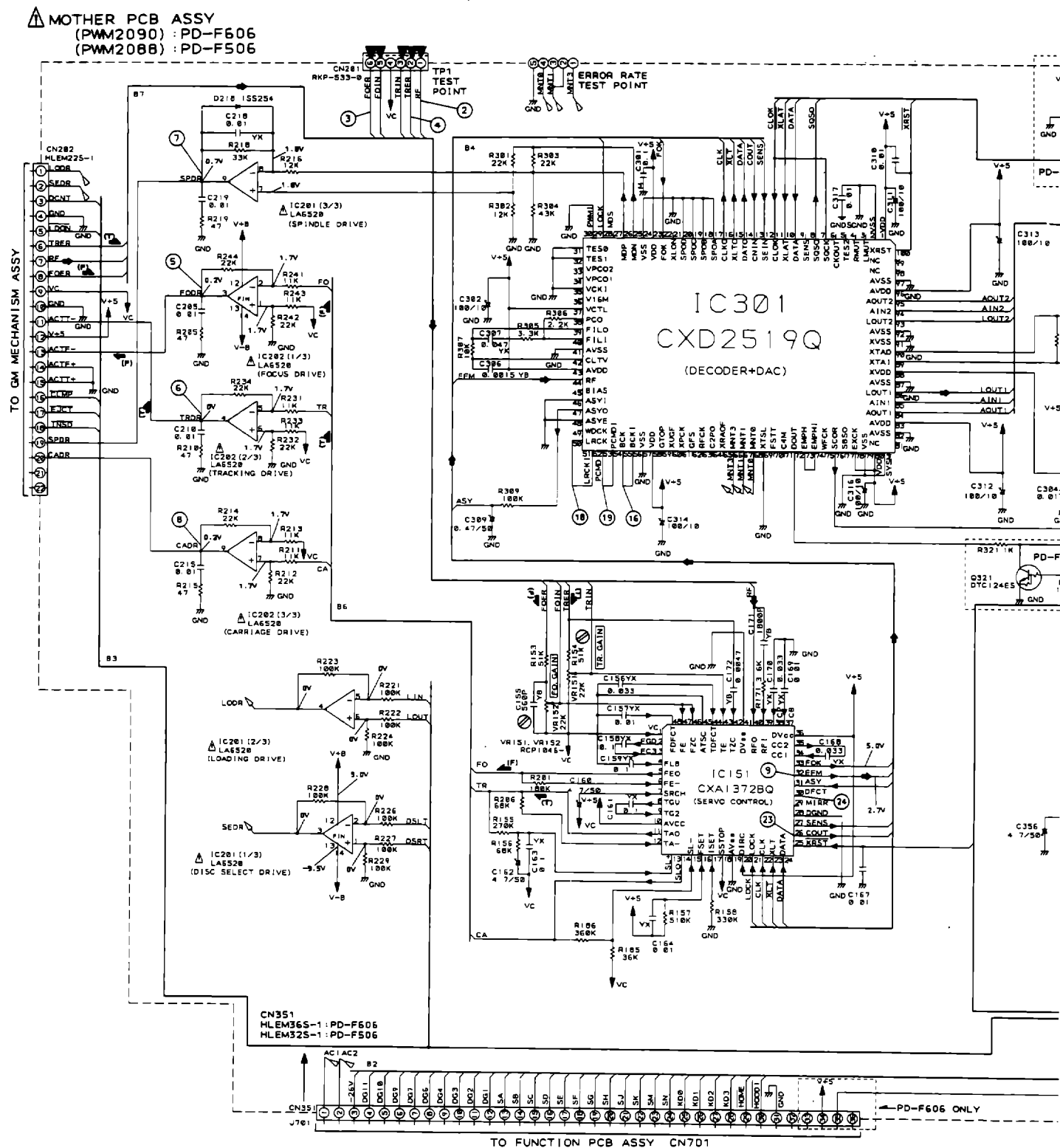
PWM2090, PWM2088 and PWM1989 have the same construction except for the following:

Mark	Symbol & Description	Part No.			Remarks
		PWM1989	PWM2090	PWM2088	
IC151		CXA1372Q	CXA1372BQ	CXA1372BQ	
IC301		CXD2508AQ	CXD2519Q	CXD2519Q	
IC351		PD4674B	PD4815A	PD4815A	
Q321		DTC124ES	DTC124ES	Not used	
D321, D391		ISS254	ISS254	Not used	
L302, L303, L321		LAU1R0J	Not used	Not used	
L341		LAU1R2J	Not used	Not used	
C170		CKCYB332K50	CGCYX333K25	CGCYX333K25	
C171		CKCYB102K50	CKCYB182K50	CKCYB182K50	
C301		Not used	CQMA104K50	CQMA104K50	*
C302		CGCYX473K50	CEAS101M10	CEAS101M10	
C303		CFTYA104J50	Not used	Not used	
C304		CGCYX473K25	CKCYF103Z50	CKCYF103Z50	
C311 – C314, C316		Not used	CEAS101M10	CEAS101M10	*
C317		Not used	CKCYF103Z50	CKCYF103Z50	*
C321		CGCYX104K25	CGCYX104K25	Not used	
C322		CEAS101M6R3	CEAS101M10	Not used	
C325		CKCYF103Z50	Not used	Not used	
C341		CCCCH100D50	CCCCH120J50	CCCCH120J50	
C342		CKCYB102K50	CCCCH120J50	CCCCH120J50	
C343		CCCCH220J50	Not used	Not used	
C356		Not used	CEAS4R7M50	CEAS4R7M50	*
C364		Not used	CKCYF103Z50	CKCYF103Z50	*
C393		CCCSL101J50	Not used	Not used	
C398		Not used	CCCSL101J50	CCCSL101J50	*
C399		Not used	CKCYF103Z50	CKCYF103Z50	*
C421, C422		CKCYB471K50	Not used	Not used	
C423 – C426		CCCSL181J50	Not used	Not used	
C433, C434		CEANP220M10	CEAS220M25	CEAS220M25	
C435 – C438		CCCSL101J50	Not used	Not used	
C481, C482		Not used	CCCSL390J50	CCCSL390J50	*
R160		RD1/4PU274J	Not used	Not used	
R171		Not used	RD1/4PU362J	RD1/4PU362J	*
R306		RD1/4PU682J	RD1/4PU222J	RD1/4PU222J	
R308		RD1/4PU104J	Not used	Not used	
R309, R487 – R490		Not used	RD1/4PU104J	RD1/4PU104J	*
R321		RD1/4PU471J	RD1/4PU102J	Not used	
R323		Not used	RD1/4PU152J	Not used	*
R341		RD1/4PU511J	RD1/4PU271J	RD1/4PU271J	
R360, R363, R365		RD1/4PU103J	Not used	Not used	
R385, R386		RD1/4PU221J	Not used	Not used	
R419 – R422		RD1/4PU562J	Not used	Not used	
R427 – R430		RD1/4PU153J	Not used	Not used	
R435, R436		RD1/4PU333J	Not used	Not used	
R437, R438		RD1/4PU333J	RD1/4PU473J	RD1/4PU473J	
R439 – R442		RD1/4PU563J	RD1/4PU823J	RD1/4PU823J	
R481, R482, R485, R486		Not used	RD1/4PU223J	RD1/4PU223J	*
CN351		HLEM36S	HLEM36S	HLEM32S	
JA301		TOTX178	Not used	Not used	
JA321		Not used	GPIF32T	Not used	*
X341		ASS7000	PSS1008	PSS1008	

Note \*: Refer to "SCHEMATIC AND PCB CONNECTION DIAGRAMS".

## 2. SCHEMATIC AND PCB CONNECTION DIAGRAMS

Note : When ordering service parts, be sure to refer to "EXPLODED VIEWS and PARTS LIST" or "PCB PARTS LIST"



## Note:

The numbers marked with a circle show the number of each measuring point, which correspond to the number in the service manual PD-F605 (ORDER NO. RRV1457) on page 13.

## SIGNAL ROUTE

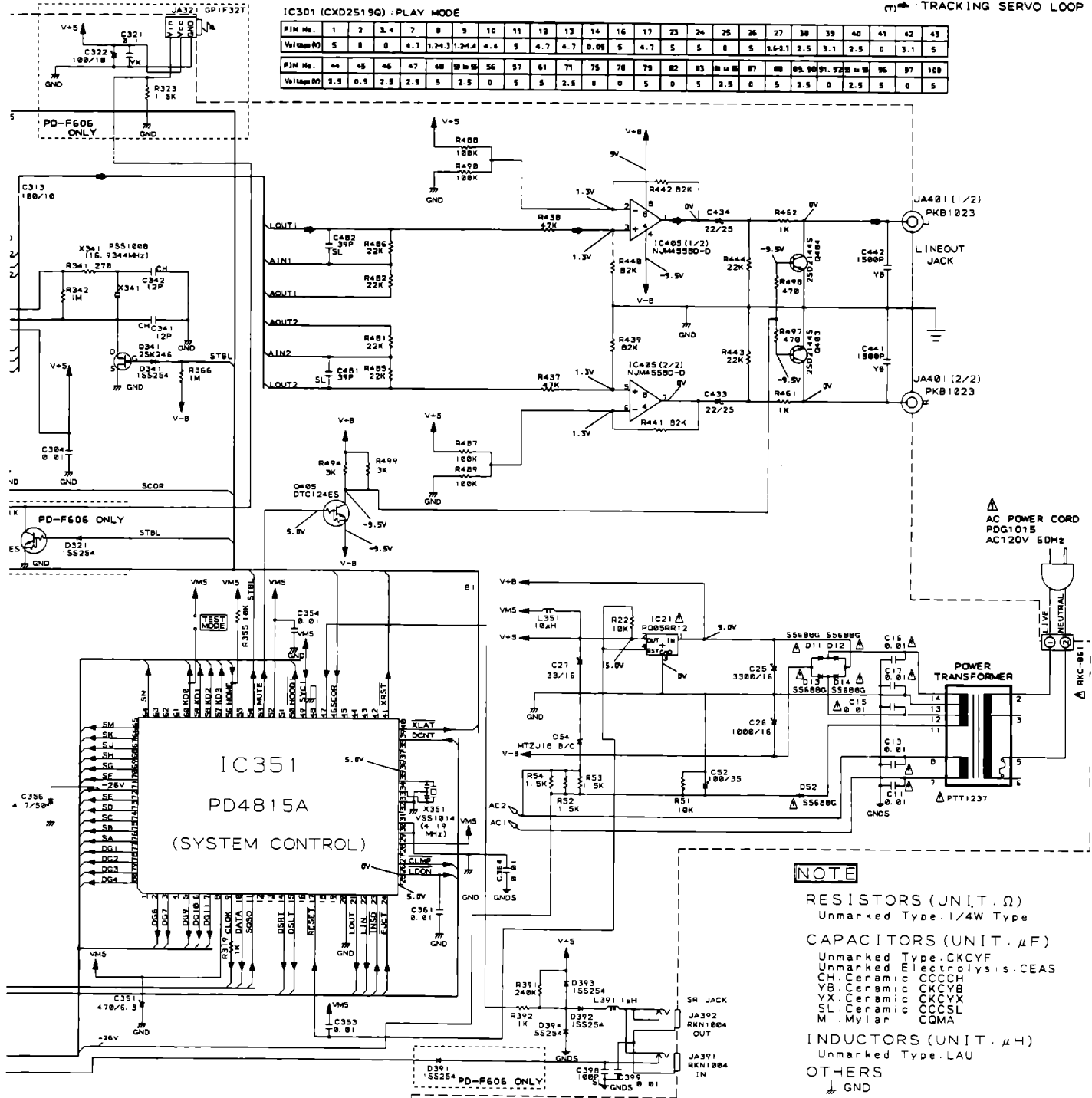
- ◆ AUDIO SIGNAL
- (F) FOCUS SERVO LOOP
- (T) TRACKING SERVO LOOP

## IC301 (CXD2519Q) : PLAY MODE

PIN No.	1	2	3,4	7	8	9	10	11	12	13	14	16	17	23	24	25	26	27	38	39	40	41	42	43	
Voltage (V)	5	0	0	4.7	1.24	3	1.24	4	4.4	5	4.7	4.7	0.05	5	4.7	5	0	5	1.4	2.5	3.1	2.5	0	3.1	5

PIN No.	44	45	46	47	48	49	56	57	61	71	75	78	79	82	83	84	87	88	89	90	91	92	94	96	97	100	
Voltage (V)	2.5	0.5	2.5	2.5	5	2.5	0	5	5	2.5	0	0	5	0	5	2.5	0	5	2.5	0	5	2.5	0	2.5	5	0	5

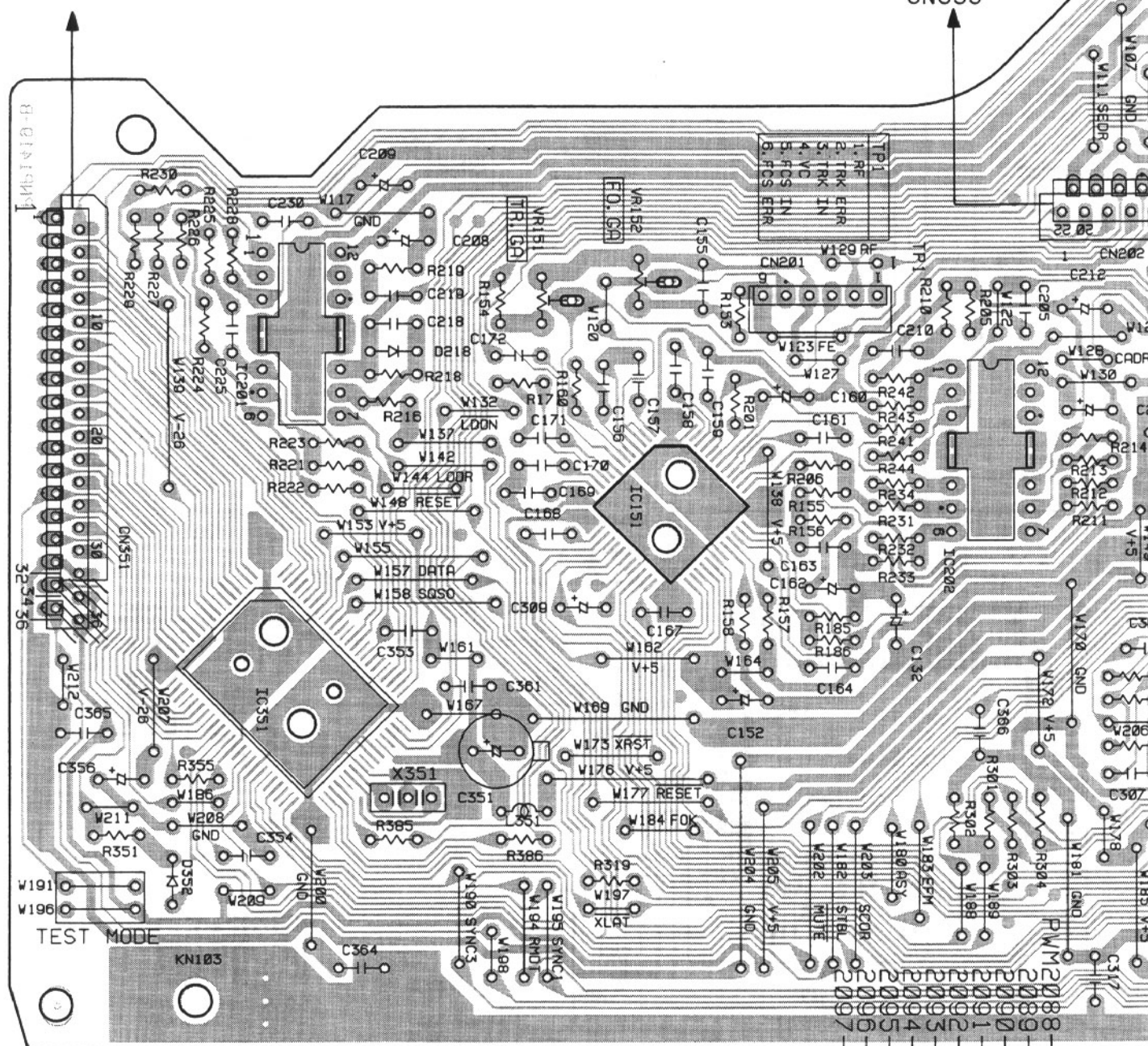


MOTHER PCB ASSY

**SIDE A**

TO FUNCTION PCB ASSY CN701

TO MECHA PCB ASSY  
CN653

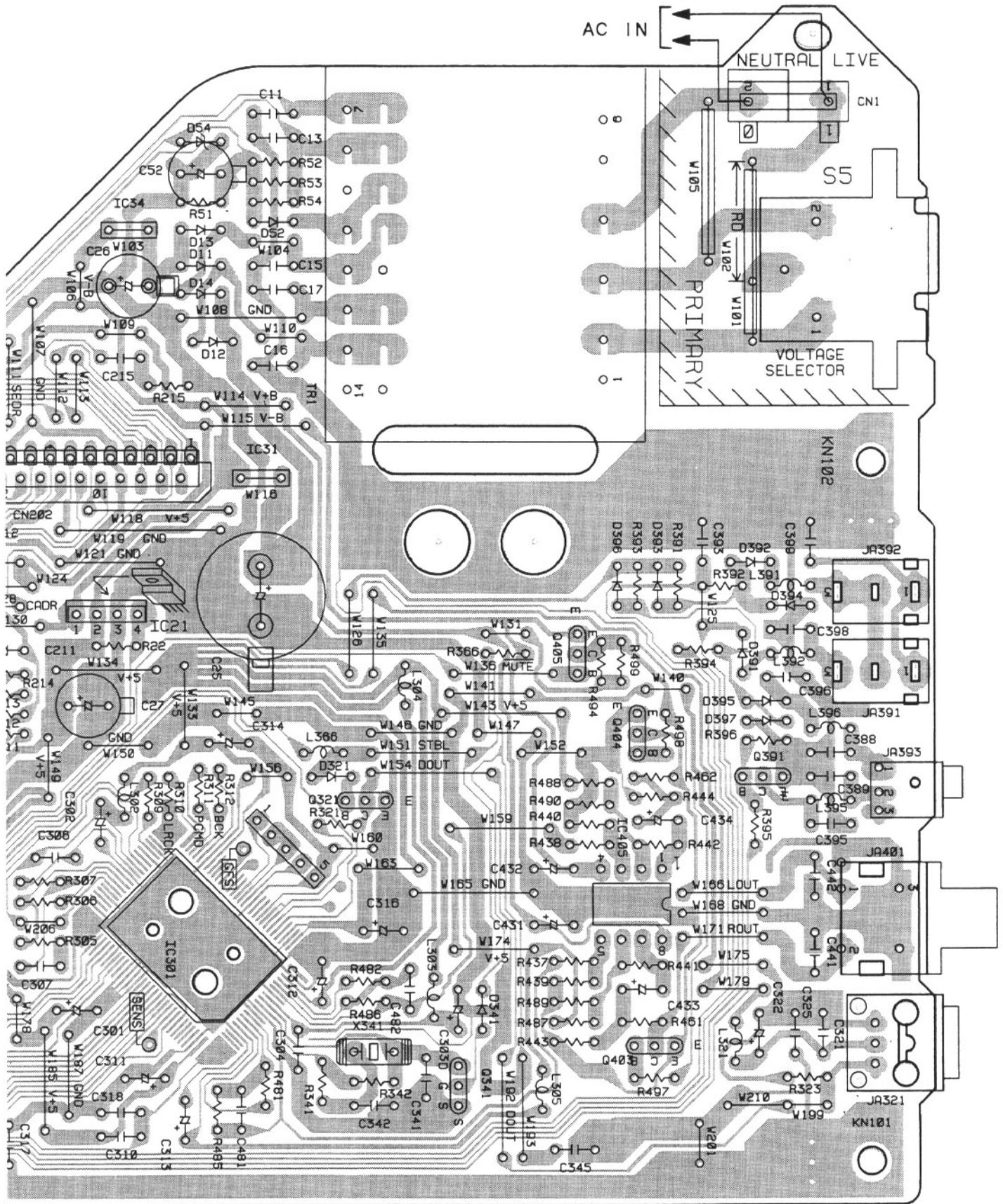


VR151 VR152

IC201  
IC351

IC151

IC202



IC34 IC301 IC31  
IC21

Q321

Q341

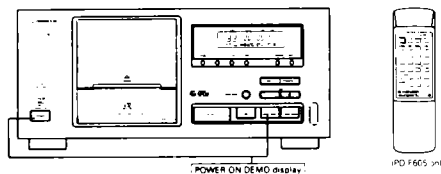
Q405 Q404  
Q403  
IC405

Q391

PNP1419-B

# Service Manual

**PIONEER**  
The Art of Entertainment



ORDER NO.  
**RRV 1457**

FILE-TYPE CD PLAYER

# PD-F605

## PD-F505

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Type	Model		Power Requirement	Remarks
	PD-F605	PD-F505		
KUXJ	O	O	AC120V	

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# 1. SAFETY INFORMATION

This service manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual.

Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.



## WARNING

Lead in solder used in this product is listed by the California Health and Welfare agency as a known reproductive toxicant which may cause birth defects or other reproductive harm (California Health & Safety Code, Section 25249.5).

When servicing or handling circuit boards and other components which contain lead in solder, avoid unprotected skin contact with the solder. Also, when soldering do not inhale any smoke or fumes produced.



## NOTICE

(FOR CANADIAN MODEL ONLY)

Fuse symbols  (fast operating fuse) and/or  (slow operating fuse) on PCB indicate that replacement parts must be of identical designation.

## REMARQUE

(POUR MODÈLE CANADIEN SEULEMENT)

Les symboles de fusible  (fusible de type rapide) et/ou  (fusible de type lent) sur CCI indiquent que les pièces de remplacement doivent avoir la même désignation.

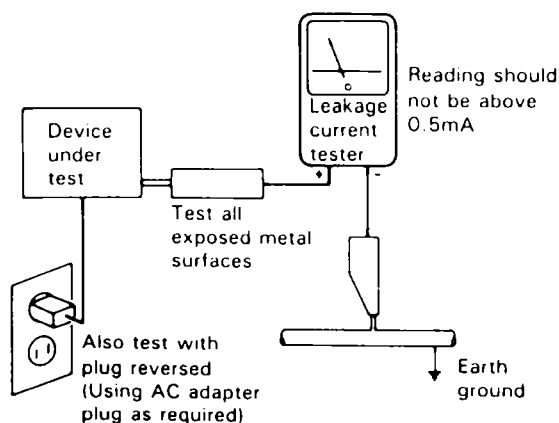
(FOR USA MODEL ONLY)

## 1. SAFETY PRECAUTIONS

The following check should be performed for the continued protection of the customer and service technician.

### LEAKAGE CURRENT CHECK

Measure leakage current to a known earth ground (water pipe, conduit, etc.) by connecting a leakage current tester such as Simpson Model 229-2 or equivalent between the earth ground and all exposed metal parts of the appliance (input/output terminals, screwheads, metal overlays, control shaft, etc.). Plug the AC line cord of the appliance directly into a 120V AC 60Hz outlet and turn the AC power switch on. Any current measured must not exceed 0.5mA.



AC Leakage Test

ANY MEASUREMENTS NOT WITHIN THE LIMITS OUTLINED ABOVE ARE INDICATIVE OF A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

## 2. PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in the appliance have special safety related characteristics. These are often not evident from visual inspection nor the protection afforded by them necessarily can be obtained by using replacement components rated for voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this Service Manual.

Electrical components having such features are identified by marking with a  $\Delta$  on the schematics and on the parts list in this Service Manual.

The use of a substitute replacement component which does not have the same safety characteristics as the PIONEER recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire, or other hazards.

Product Safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult the current PIONEER Service Manual. A subscription to, or additional copies of, PIONEER Service Manual may be obtained at a nominal charge from PIONEER.

## 2. PACKING, EXPLODED VIEWS AND PARTS LIST

### NOTES:

- Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.
- The  $\triangle$  mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- Parts marked by "●" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.

### ■ CONTRAST OF PD-F605 AND PD-F505

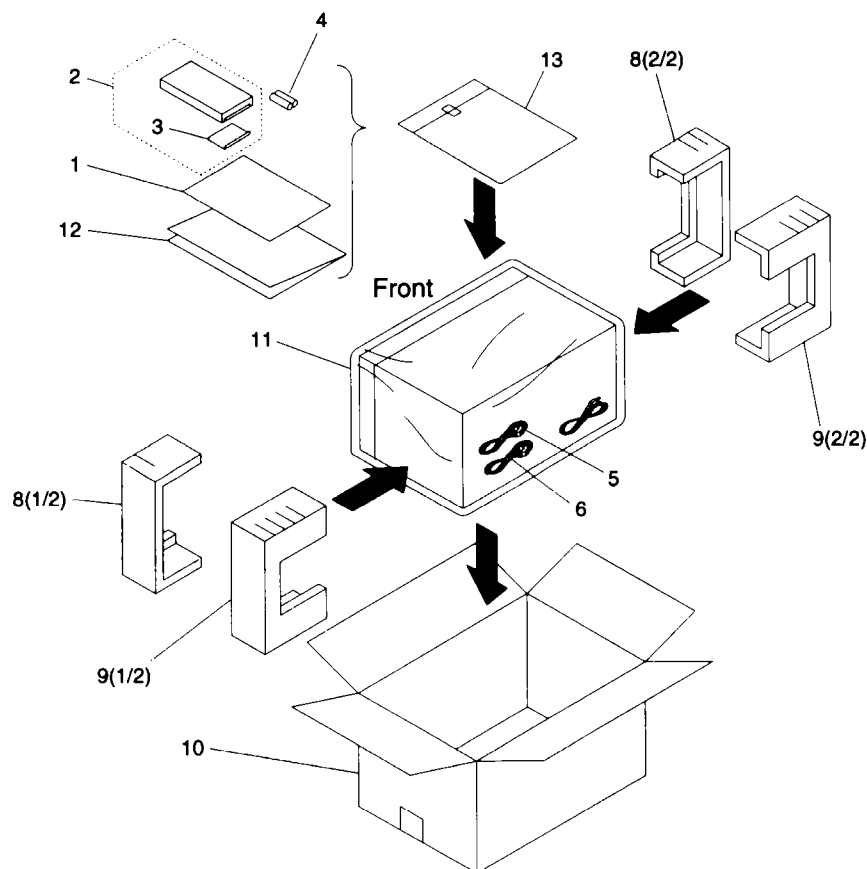
PD-F505 and PD-F605 have the same construction except for the following:

Mark	No.	Symbol & Description	Part No.		Remarks
			PD-F605	PD-F505	
	2	Remote Control	PWW1108	Not used	
	3	Battery Cover	AZN2249	Not used	
	4	Battery (R6P, AA)	AEX - 010	Not used	
	10	Packing Case	PHG2162	PHG2156	

### ■ PARTS LIST FOR PD-F605

Mark	No.	Description	Parts No.	Mark	No.	Description	Parts No.
	1	Operating Instructions (English)	PRB1234		11	Packing Sheet	AHG7010
	2	Remote Control Unit	PWW1108	NSP	12	Warranty Card	ARY1051
	3	Battery Cover	AZN2249		13	Polyethylene Bag	Z21 - 038
NSP	4	Battery (R6P, AA)	AEX - 010				
	5	Cord with Mini Plug	PDE1247				
	6	Cord with Plug	PDE1248				
	7	.....					
	8	Protector F	PHA1299				
	9	Protector R	PHA1300				
	10	Packing Case	PHG2162				

### PACKING



### 3. EXPLODED VIEWS AND PARTS LIST

**NOTES:**

- Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.
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#### 3.1 EXTERIOR

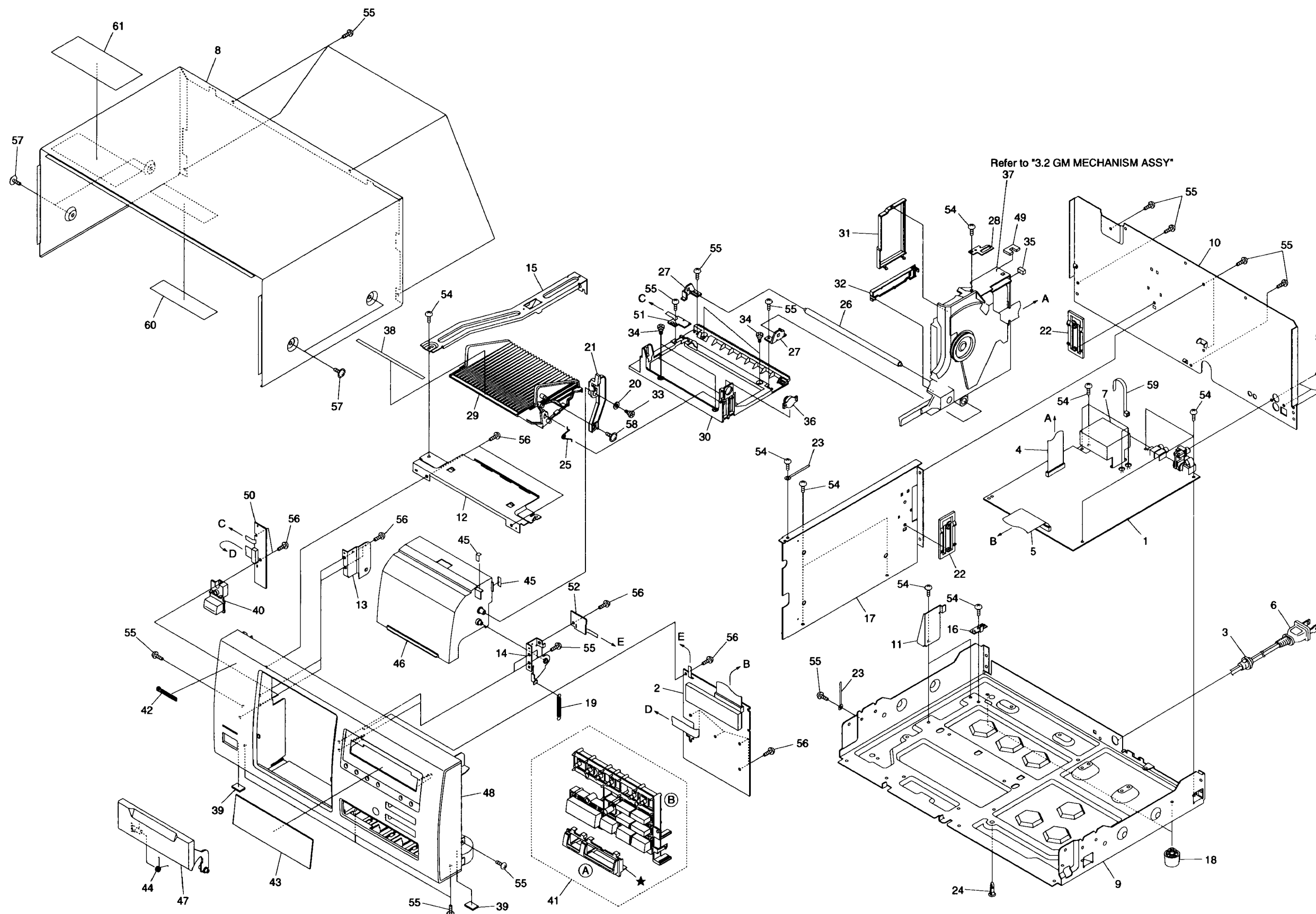
##### ■ CONTRAST OF PD-F505 AND PD-F605

PD-F505 and PD-F605 have the same construction except for the following:

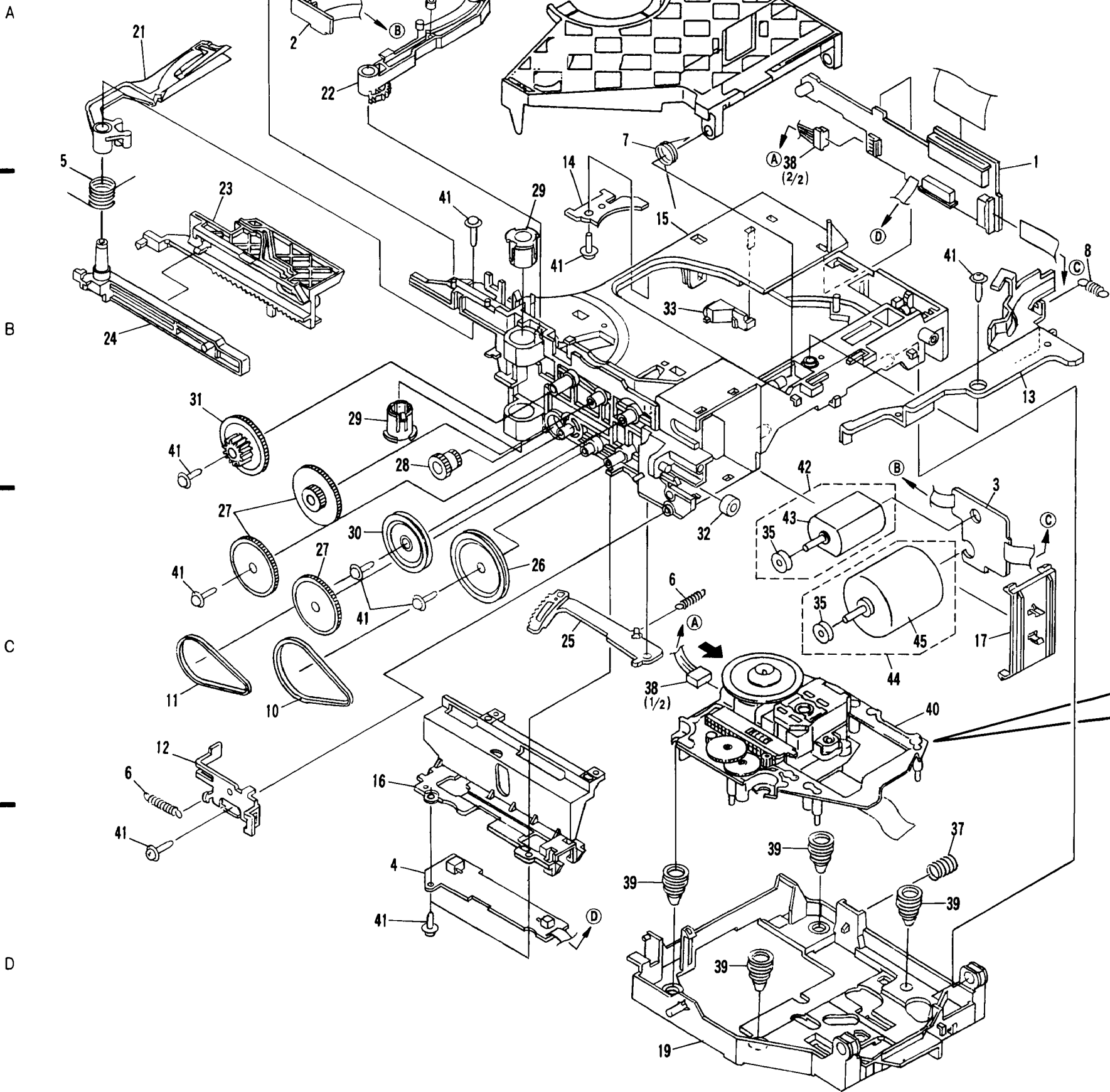
Mark	No.	Symbol & Description	Part No.		Remarks
			PD-F605	PD-F505	
$\Delta$	1	Mother PCB ASSY	PWM1989	PWM1984	
	2	Function PCB ASSY	PWZ3134	PWZ3129	
	5	36P F.F.C/30V	PDD1173	Not used	
	5	32P F.F.C/30V	Not used	PDD1167	
	10	Rear Base	PNA2258	PNA2241	
NSP	43	Display Window	PAM1702	PAM1699	
	48	Panel	PNW2649	PNW2617	
	50	Power SW PCB ASSY	PWZ3145	PWZ3143	

##### ■ PARTS LIST FOR PD-F605

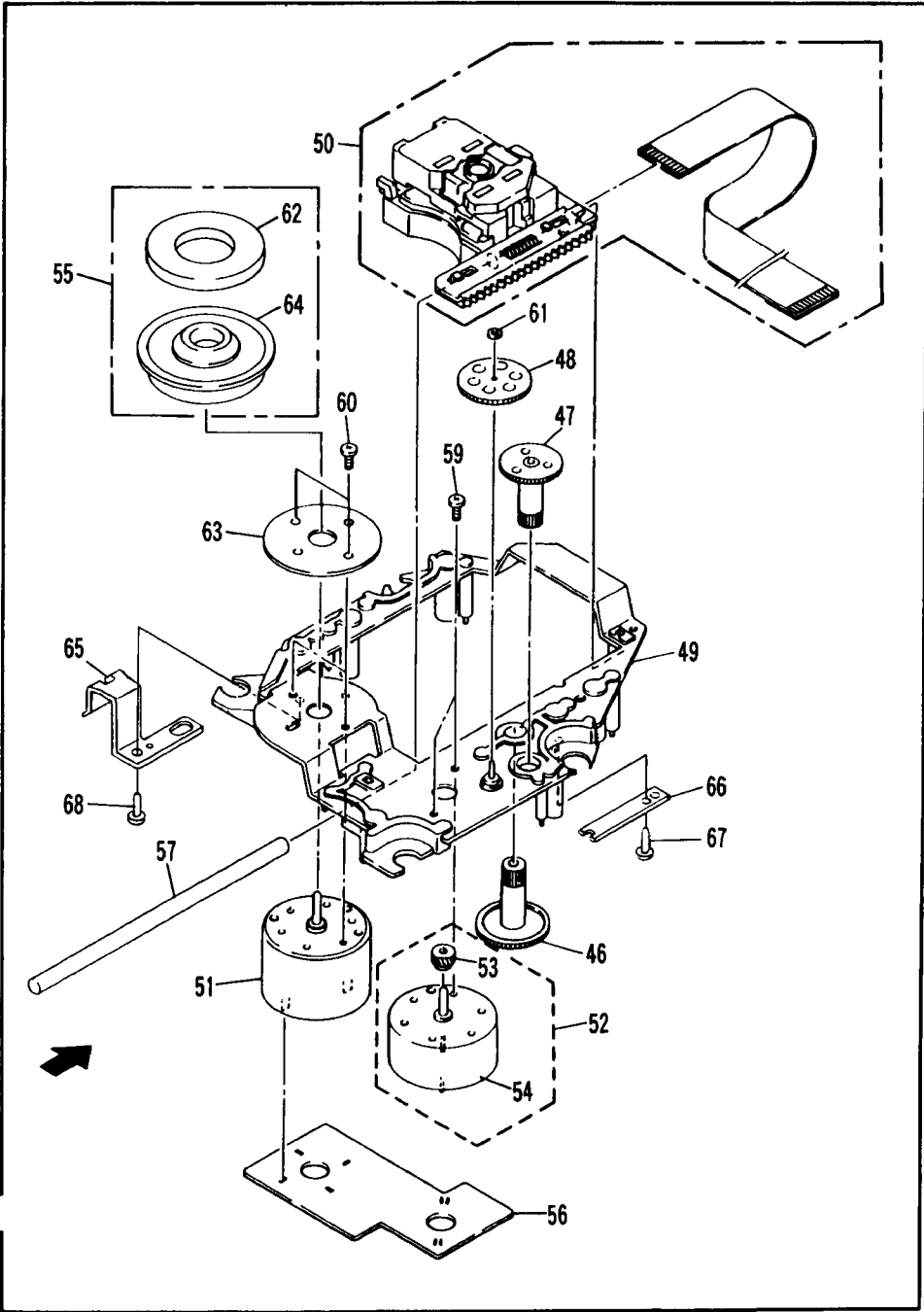
Mark	No.	Description	Parts No.	Mark	No.	Description	Parts No.
$\Delta$	1	Mother PCB ASSY	PWM1989		31	Servo Cover	ANW7073
	2	Function PCB ASSY	PWZ3134		32	Nice Cover	ANW7074
	3	Cord Stopper	CM – 22C		33	Screw P	PBA1105
	4	22P F.F.C/30V	PDD1170		34	Screw C	PBA1106
	5	36P F.F.C/30V	PDD1173	NSP	35	C.H.Spacer	PEB1295
$\Delta$	6	AC Power Cord	PDG1015		36	Damper ASSY 80	PXA1584
	7	Power Transformer	PTT1237	NSP	37	GM Mechanism	AXA7026
	8	Bonnet	PYY1187		38	Disc Rack Panel	AAK7251
	9	Under Base	PNA2249		39	Rubber Sheet	AEB1111
	10	Rear Base	PNA2258		40	Power Button	PAC1815
NSP	11	F.B Stopper	PNB1565		41	Operate Button	PAC1816
	12	Panel Angle	PNB1545		42	Name Plate	PAM1608
	13	Hood Angle L	PNB1546		43	Display Window	PAM1702
	14	Hood Angle R	PNB1547		44	Door Spring	PBH1216
	15	Home Lock Angle 1	PNB1548	NSP	45	Cushion (ART. SVEDE)	PED1016
	16	Home Lock Angle 2	PNB1549		46	Hood	PNW2613
	17	Barrier	PNB1550		47	Door	PNW2616
	18	Foot ASSY	AEC1531		48	Panel	PNW2649
	19	Link Spring	PBH1215		49	Assist Spacer	PNM1295
	20	Link Spacer	PEB1292	NSP	50	Power SW PCB ASSY	PWZ3145
NSP	21	Link	PNW2614	NSP	51	Home SW PCB ASSY	PWZ3149
	22	FFC Holder	PNW2615	NSP	52	Hood SW PCB ASSY	PWZ3151
	23	Cord Clamper	RNH – 184		53	.....	
	24	Locking Card Spacer	VEC1596		54	Screw	BBZ30P060FMC
	25	Rack Spring	ABH7057		55	Screw	BBZ30P080FZK
NSP	26	Guide Shaft – 25	ALA7007		56	Screw	PPZ30P080FMC
	27	Shaft Holder	ANB7021		57	Screw	FBT40P080FZK
	28	Assist Angle	ANB7043		58	Screw	IBZ30P080FMC
	29	Disc Rack	ANW7069		59	Binder	ZCA – SKB90BK
	30	Rack Base S	ANW7070		60	65 Label	ORW1069
					61	Caution Level 25	PRW1423



3.2 GM MECHANISM

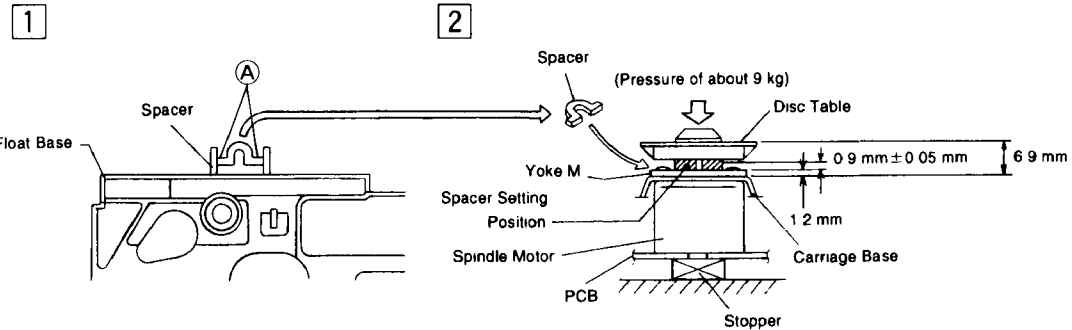


Servo Mechanism Assy GM



● How to install the disc table

- 1 Use nipper or other tool to cut the two sections marked A figure 1. Then remove the spacer.
- 2 While supporting the spindle motor shaft with the stopper, put spacer on top of the yoke M, and stick the disc table on top (takes about 9kg pressure). Take off the spacer.



## Parts List

Mark	No.	Description	Parts No.
NSP	1	Mecha PCB Assy	AWZ7835
NSP	2	Sensor PCB Assy	AWZ7836
NSP	3	Motor PCB Assy	AWZ7837
NSP	4	SW PCB Assy	AWZ7838
	5	Arm A Spring	ABH7050
	6	Gear Plate Spring	ABH7051
	7	Clamp Spring	ABH7107
	8	Lock Lever Spring	ABH7106
	9	.....	
	10	Loading Belt	AEB7029
	11	Belt	AEB7030
NSP	12	Lock Angle	ANB7027
NSP	13	Lock Lever	ANB7038
NSP	14	Servo Stopper S	ANB7047
	15	Loading Base	ANW7051
	16	Cam Cover	ANW7052
	17	Motor Holder	ANW7053
	18	Sensor Holder	ANW7054
	19	Float Base	ANW7088
	20	Clamper Holder	ANW7056
	21	Arm (A)	ANW7057
	22	Arm (B)	ANW7058
	23	Drive Plate	ANW7059
	24	Arm Plate	ANW7060
	25	Gear Plate	ANW7061
	26	Gear Pulley (B)	ANW7062
	27	Gear A	ANW7063
	28	Drive Gear	ANW7064
	29	Bearing	ANW7065
	30	Gear Pulley (A)	ANW7066
	31	Select Gear	ANW7067
	32	Roller	ANW7068
	33	LED Lens	ANW7072
	34	Roller B	ANW7075
	35	Motor Pulley	PNW1634
	36	Clamper	PNW2569
	37	Float Spring	ABH7049
	38	Connector Assy (4P)	ADE7006
	39	Float Rubber	AEB7028
NSP	40	Servo Mechanism Assy GM	AXA7028
	41	Screw	IPZ20P080FMC
	42	Motor Assy	AEA7005
NSP	43	Motor	PXM1002
	44	Motor Assy	AEA7006
	45	Loading Motor	VXM1034
	46	Gear 1	PNW2052
	47	Gear 2	PNW2053
	48	Gear 3	PNW2054
	49	Carriage Base	PNW2445
	50	Pickup Assy	AEA7004

Mark	No.	Description	Parts No.
	51	D.C. Motor Assy	PEA1235
	52	Carriage DC Motor Assy	PEA1246
	53	Pinion Gear	PNW2055
NSP	54	Carriage DC Motor/0.3W	PXM1027
	55	Disc Table Assy	PEA1314
	56	Mechanism Board Assy	PWX1192
	57	Guide Bar	PLA1094
	58	.....	
	59	Screw	JFZ17P025FZK
	60	Screw	JFZ20P040FMC
	61	Washer	WT12D032D025
	62	Clamp Magnet	PMF1014
	63	Yoke M	PNB1312
NSP	64	Disc Table	PNW2410
NSP	65	Float Angle	ANB7020
	66	Gear Stopper	PNB1303
	67	Screw	BPZ20P060FMC
	68	Screw	BPZ26P100FMC
	69	.....	
	70	Froil	GYA1001
	71	Ha Narl	GEM1016

## 4. SCHEMATIC AND PCB CONNTCTION DIAGRAMS

### 4.1 GM MECHANISM

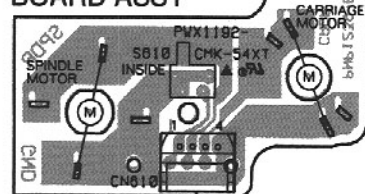
NOTE FOR PCB DIAGRAMS:

1. Part numbers in PCB diagrams match those in the schematic diagrams.
2. A comparison between the main parts of PCB and schematic diagrams is shown below.

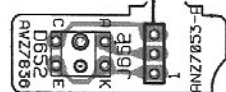
Symbol in PCB Diagrams	Symbol in Schematic Diagrams	Part Name
		Transistor
		Transistor with resistor
		Field effect transistor
		Resistor array
		3-terminal regulator

#### GM MECHA ASSY

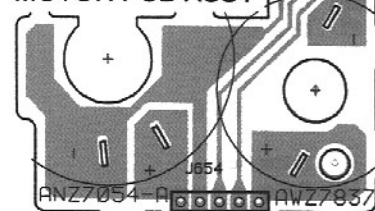
##### MECHANISM BOARD ASSY



##### SENSOR PCB ASSY

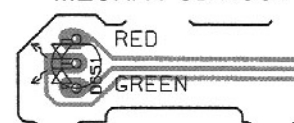


##### MOTOR PCB ASSY

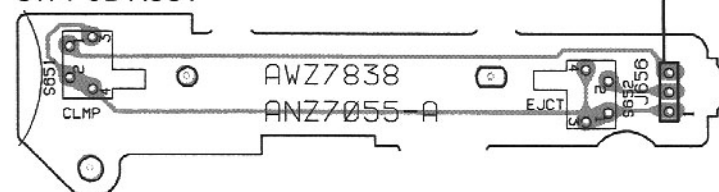


To MOTHER PCB assy CN202

##### MECHA PCB ASSY



##### SW PCB ASSY



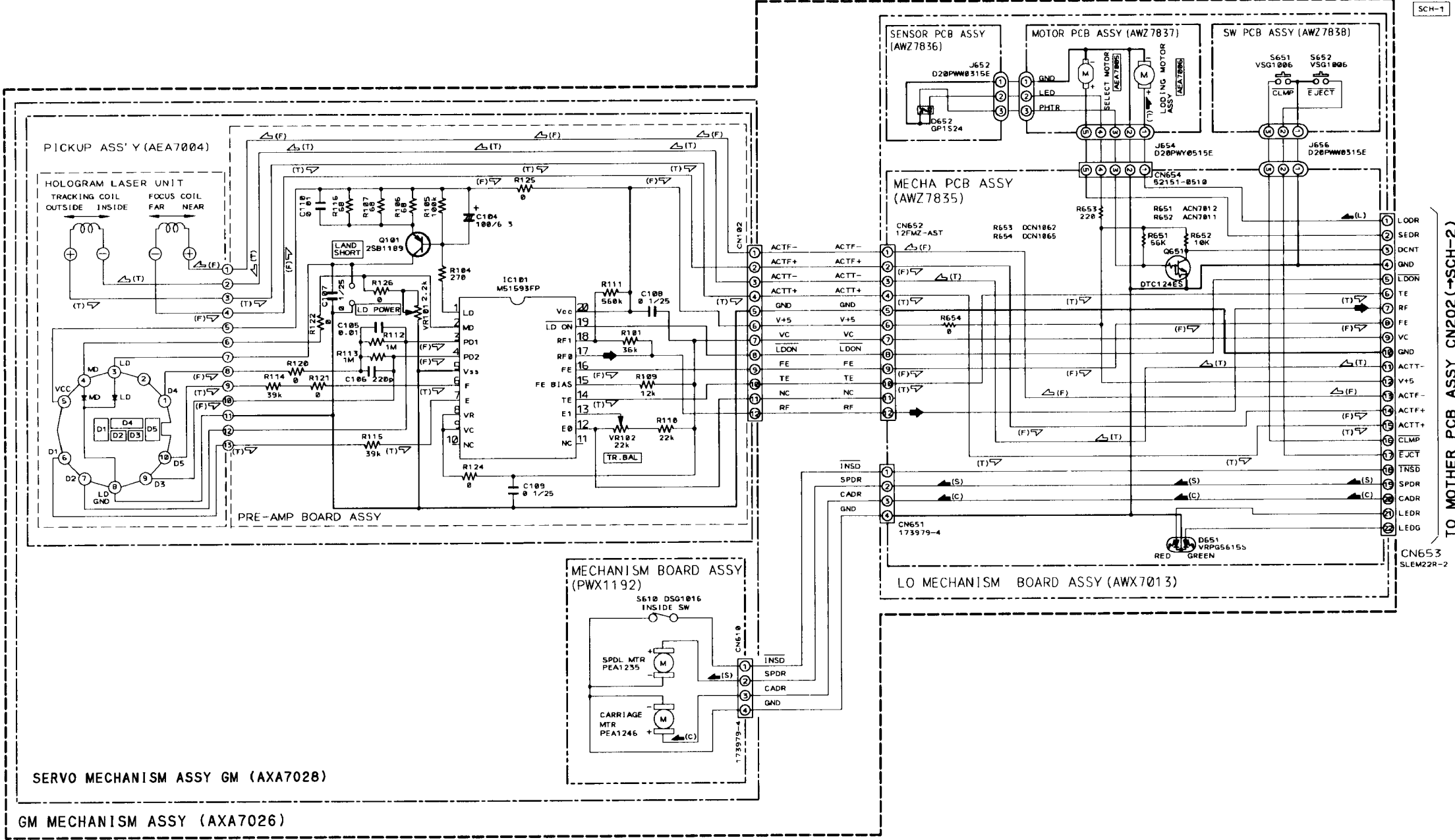
To PICKUP assy

- This diagram is viewed from the mounted parts side.

The parts mounted on this PCB include all necessary parts for several destinations.  
For further information for respective destinations, be sure to check with the schematic diagram.

NOTE FOR SCHEMATIC DIAGRAMS (Type 4A)

1. When ordering service parts, be sure to refer to "PARTS LIST of EXPLODED VIEWS" or "PCB PARTS LIST".
2. Since these are basic circuits, some parts of them or the values of some components may be changed for improvement.
3. RESISTORS:  
Unit: k: k $\Omega$ , M: M $\Omega$ , or  $\Omega$  unless otherwise noted.  
Rated power: 1/4W, 1/6W, 1/8W, 1/10W unless otherwise noted.  
Tolerance: (F):  $\pm 1\%$ , (G):  $\pm 2\%$ , (K):  $\pm 10\%$ , (M):  $\pm 20\%$  or  $\pm 5\%$  unless otherwise noted.
4. CAPACITORS:  
Unit: p: pF or  $\mu$ F unless otherwise noted.  
Ratings: capacitor ( $\mu$ F)/voltage(V) unless otherwise noted.  
Rated voltage: 50V except for electrolytic capacitors.
5. COILS:  
Unit: m.mH or  $\mu$ H unless otherwise noted.
6. VOLTAGE AND CURRENT:  
 $\square$  or  $\leftarrow$  V  
DC voltage (V) in PLAY mode unless otherwise noted.  
 $\triangleleft$  mA or  $\leftarrow$  mA.  
DC current in PLAY mode unless otherwise noted.  
Value in ( ) is DC current in STOP mode.
7. OTHERS:  
 $\odot$  or  $\odot$ : Adjusting point  
 $\blacktriangleleft$ : Measurement point.  
The  $\Delta$  mark found on some component parts indicates the importance of the safety factor of the parts. Therefore, when replacing, be sure to use parts of identical designation.
8. SCH- $\square$  ON THE SCHEMATIC DIAGRAM:  
SCH- $\square$  indicates the drawing number of the schematic diagram (SCH stands for schematic diagram.)
9. SWITCHES (Underline indicates switch position):  
FUNCTION PCB ASSY  
S701: MODE  
S702: CLEAR  
S703:  $\blacksquare$   
S704:  $\blacktriangleleft$   $\blacktriangleright$   
S705:  $\blacktriangleright$   $\blacktriangleleft$   
S707: HI-LITE  
S708: PROGRAM  
S709:  $\blacktriangleright$ /II  
S710: BEST  
S711: DISC -  
S712: DISC +  
S713: RANDOM  
S714: REPEAT  
S715: PREVIOUS  
POWER SW PCB ASSY  
S752: POWER STANDBY/ON



SIGNAL ROUTE  
(F)  $\blacktriangleleft$  FOCUS SERVO LOOP LINE  
(T)  $\blacktriangleleft$  TRACKING SERVO LOOP LINE  
(L)  $\blacktriangleleft$  LOADING MOTOR ROUTE  
(S)  $\blacktriangleleft$  SPINDLE MOTOR ROUTE  
(C)  $\blacktriangleleft$  CARRIAGE MOTOR ROUTE  
 $\blacktriangleright$  AUDIO SIGNAL

SCH-1

GM MECHANISM

SCH-1

GM MECHANISM



4.2 MOTHER PCB, FUNCTION PCB, POWER SW PCB, HOME SW PCB AND HOOD SW PCB ASSEMBLIES

A

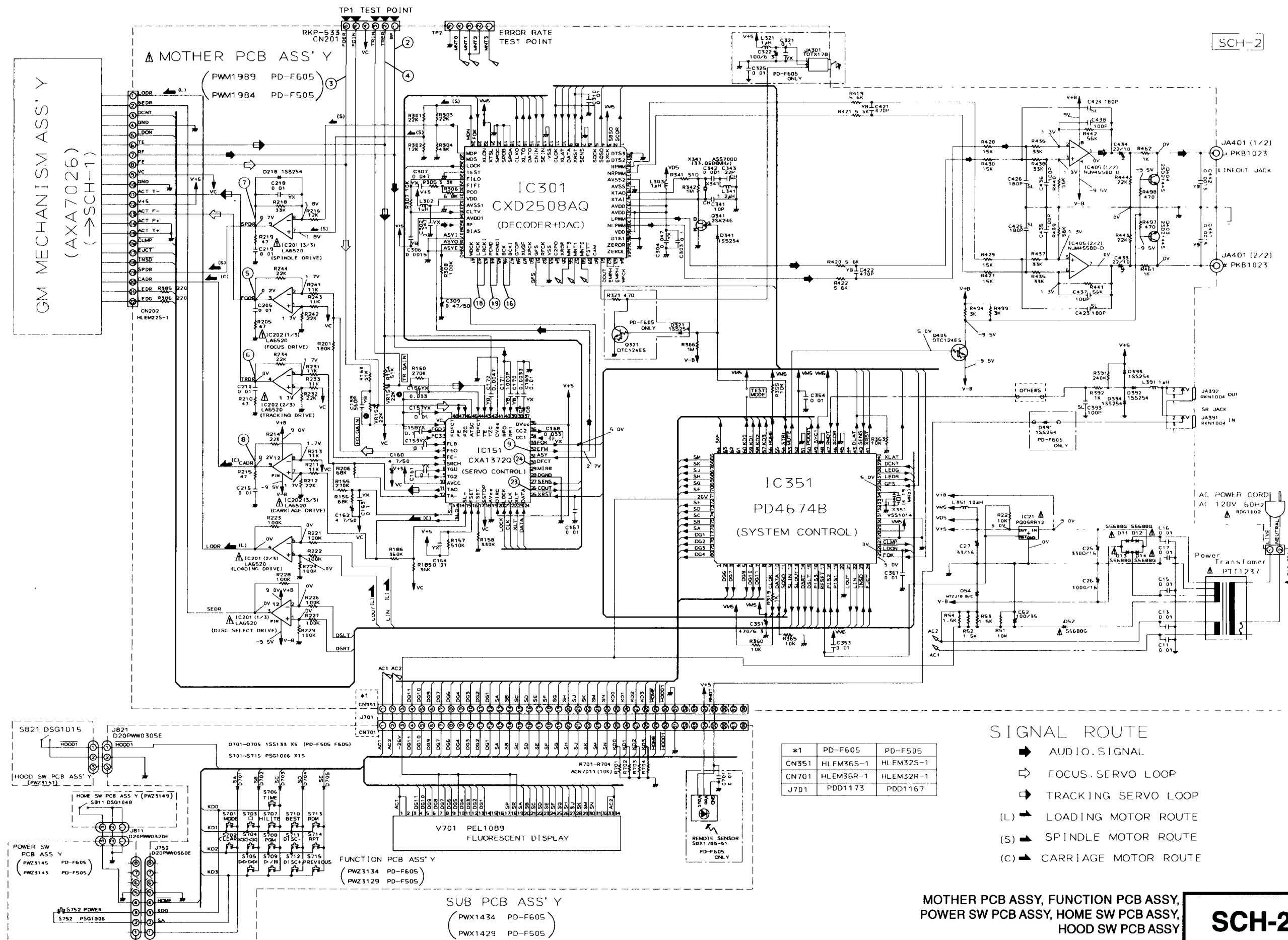
B

C

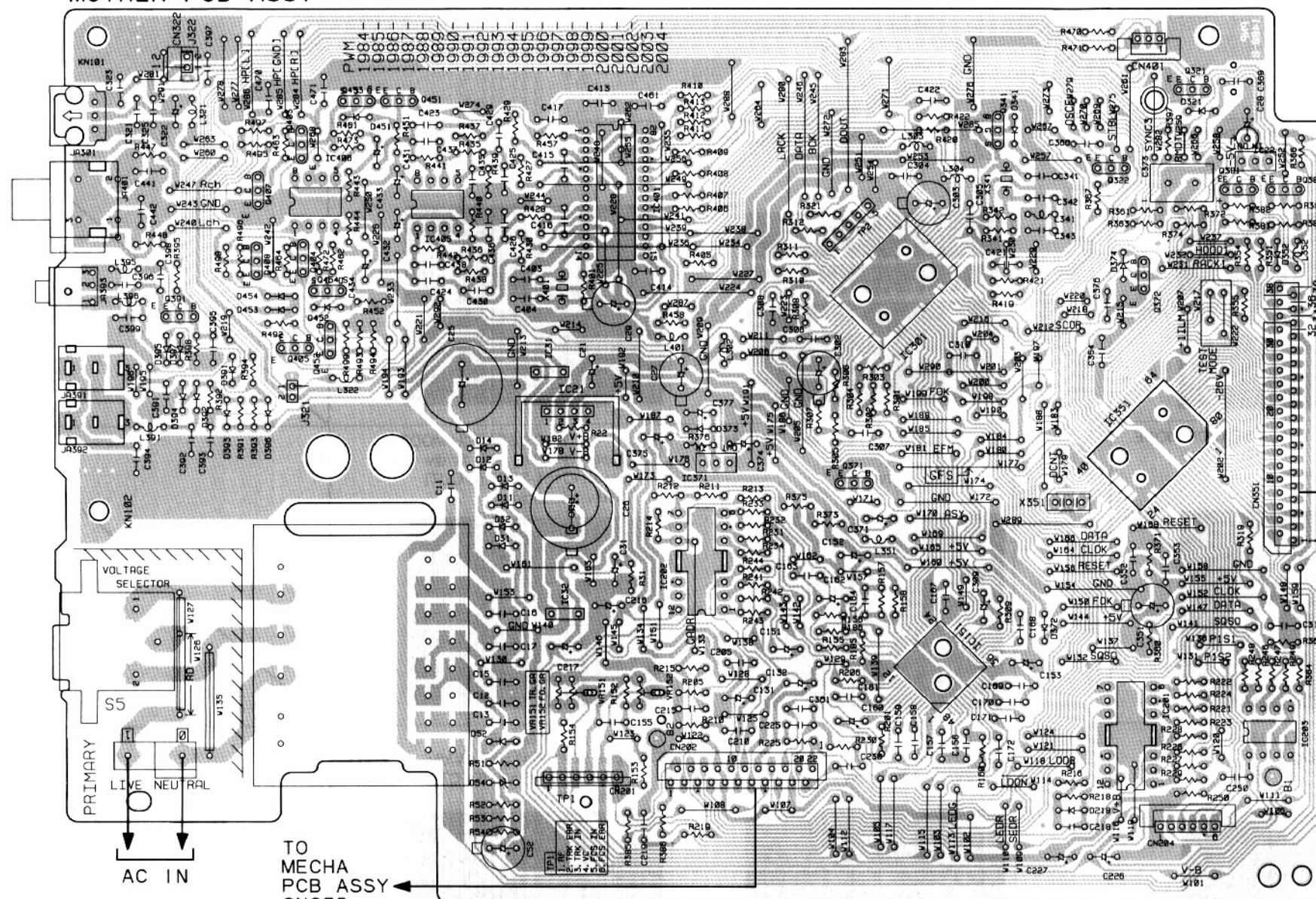
D

MOTHER PCB ASSY, FUNCTION PCB ASSY,  
POWER SW PCB ASSY, HOME SW PCB ASSY,  
HOOD SW PCB ASSY

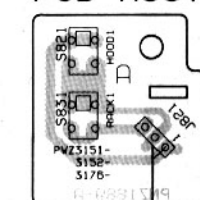
SCH-2



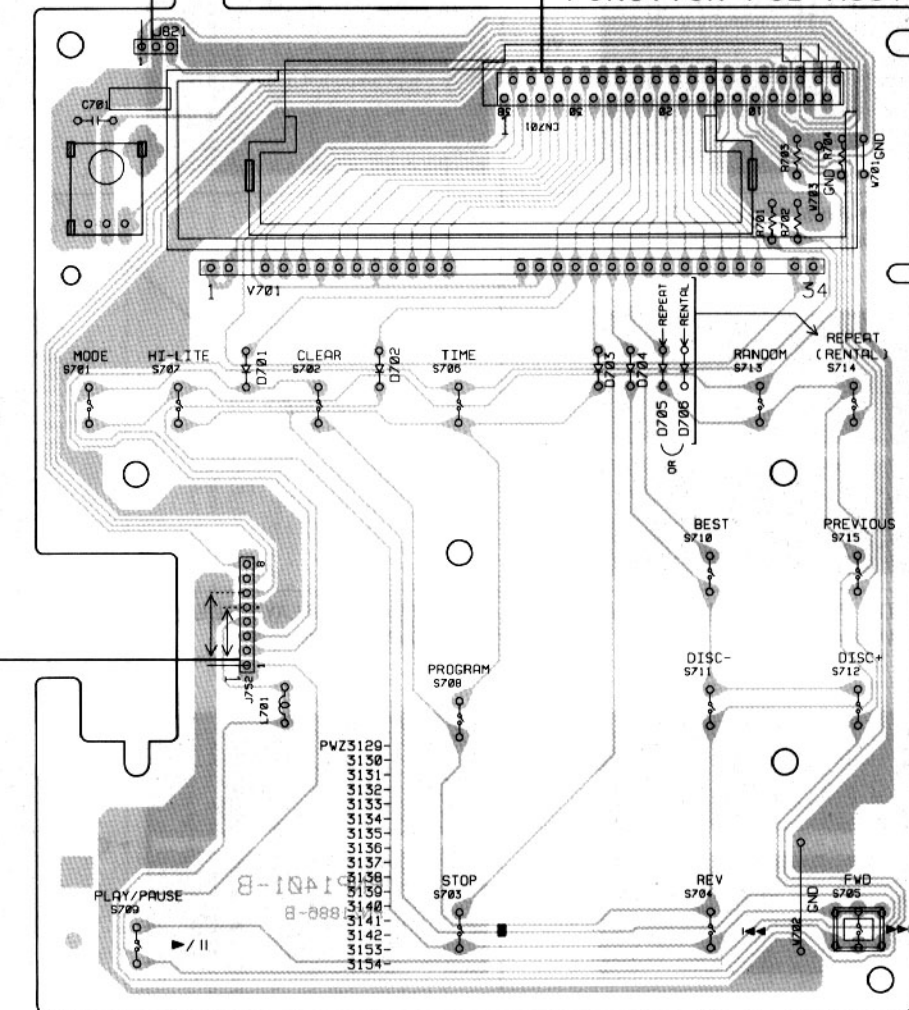
MOTHER PCB ASSY



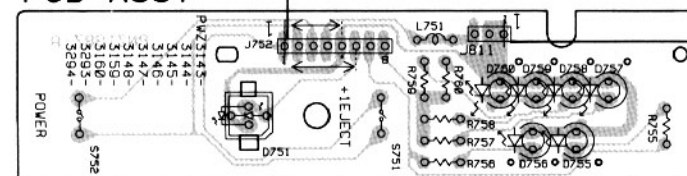
HOOD SW PCB ASSY



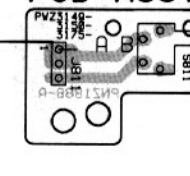
FUNCTION PCB ASSY



POWER SW PCB ASSY



HOME SW PCB ASSY



• This diagram is viewed from the mounted parts side.

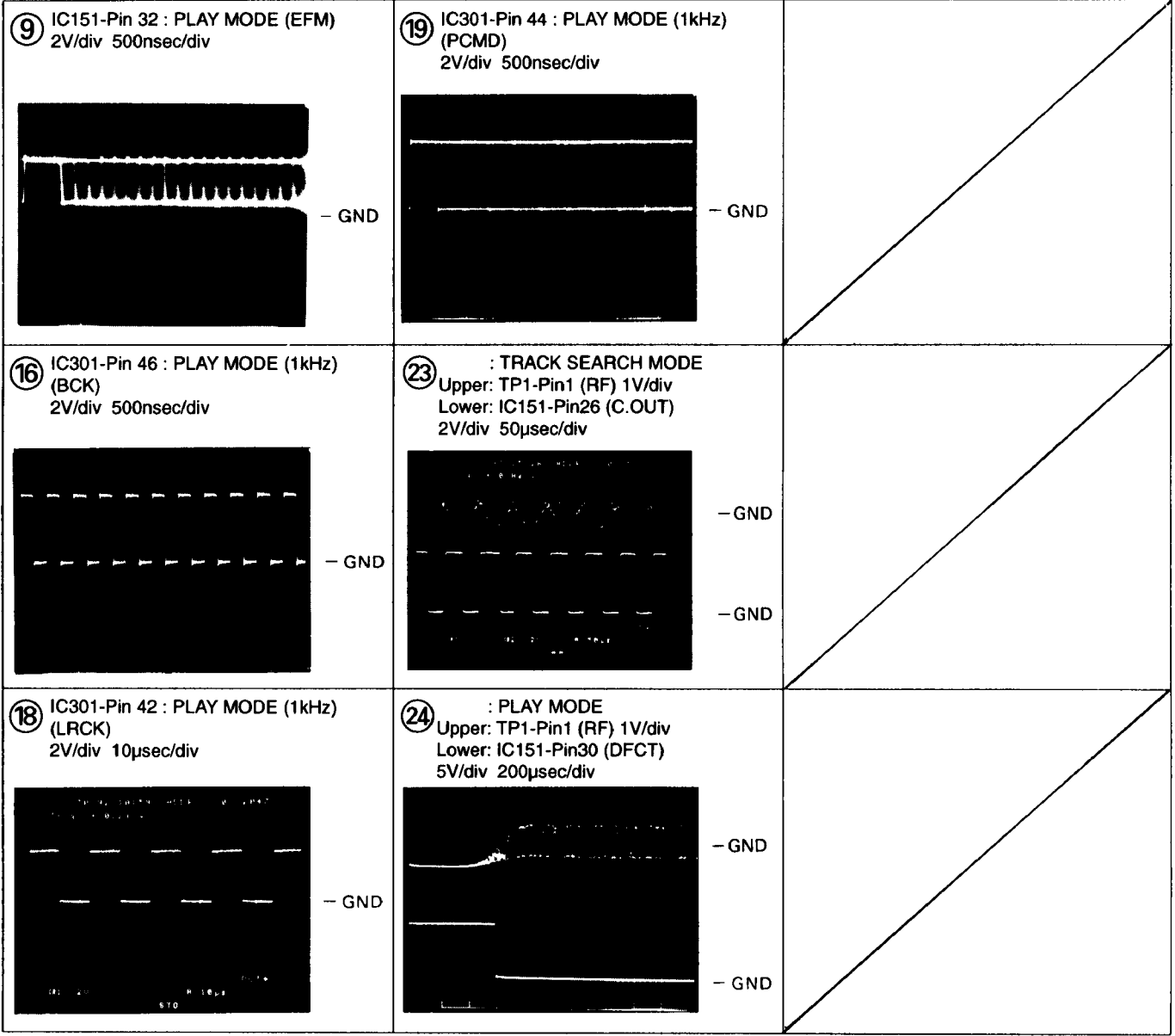
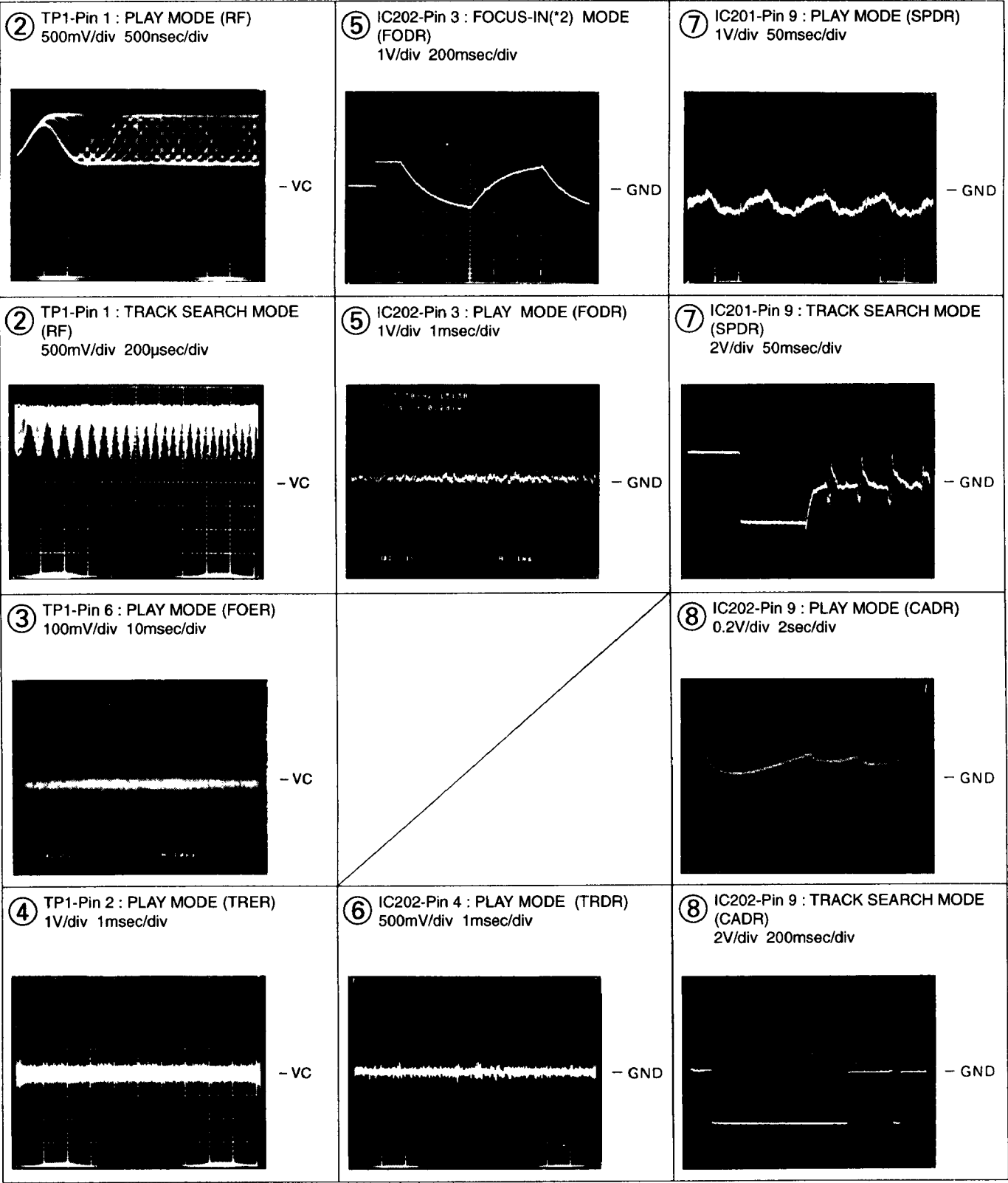
• The parts mounted on this PCB include all necessary parts for several destinations. For further information for respective destinations, be sure to check with the schematic diagram.

PNP1401-B

Waveforms

Note: The encircled numbers denote measuring point in the schematic diagram.

\*2 FOCUS: Press the key without loading a disc.



## 5. PCB PARTS LIST

### NOTES:

- Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.
- The  $\Delta$  mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- Parts marked by "●" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.
- When ordering resistors, first convert resistance values into code form as shown in the following examples.

Ex.1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J = 5%, and K = 10%).

560 $\Omega$	$\rightarrow$	56 $\times$ 10 <sup>1</sup>	$\rightarrow$	561 .....	RD1/4PU561J
47k $\Omega$	$\rightarrow$	47 $\times$ 10 <sup>3</sup>	$\rightarrow$	473 .....	RD1/4PU473J
0.5 $\Omega$	$\rightarrow$	0R5 .....			RN2H0R5K
1 $\Omega$	$\rightarrow$	1R0 .....			RS1P7R0K

Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62k $\Omega$	$\rightarrow$	562 $\times$ 10 <sup>1</sup>	$\rightarrow$	5621 .....	RN1/4PC5621F
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### ■ LIST OF WHOLE PCB ASSEMBLIES

Mark	Symbol & Description	Part No.		Remarks
		PD-F605	PD-F505	
$\Delta$	MOTHER PCB ASSY	PWM1989	PWM1984	
NSP	SUB PCB ASSY	PWX1434	PWX1429	
	— FUNCTION PCB ASSY	PWZ3134	PWZ3129	
NSP	— POWER SW PCB ASSY	PWZ3145	PWZ3143	
NSP	— HOME SW PCB ASSY	PWZ3149	PWZ3149	
NSP	— HOOD SW PCB ASSY	PWZ3151	PWZ3151	
NSP	GM MECHANISM	AXA7026	AXA7026	
	— LO MECHANISM BOARD ASSY	AWX7013	AWX7013	
NSP	— MECHA PCB ASSY	AWZ7835	AWZ7835	
NSP	— SENSOR PCB ASSY	AWZ7836	AWZ7836	
NSP	— MOTOR PCB ASSY	AWZ7837	AWZ7837	
NSP	— SW PCB ASSY	AWZ7838	AWZ7838	
NSP	SERVO MECHANISM ASSY	AXA7028	AXA7028	
NSP	— MECHANISM BOARD ASSY	PWX1192	PWX1192	

### ■ CONTRAST OF PCB ASSEMBLIES

#### MOTHER PCB ASSY

PWM1984 and PWM1989 have the same construction except for the following:

Mark	Symbol & Description	Part No.	
		PWM1989	PWM1984
	C321	CGCYX104K25	Not used
	C322	CEAS101M6R3	Not used
	C325	CKCYF103Z50	Not used
	CN351	HLEM36S – 1	HLEM32S – 1
	D321, D391	ISS254	Not used
	JA301 Optical Output Jack	TOTX178	Not used
	L321	LAU010J	Not used
	Q321	DTC124ES	Not used
	R321	RD1/4PU102J	Not used

#### FUNCTION PCB ASSY

PWZ3129 and PWZ3134 have the same construction except for the following:

Mark	Symbol & Description	Part No.	
		PWZ3134	PWZ3129
	CN701 Remote Sensor	HLEM36R – 1 SBX1785 – 51	HLEM32R – 1 Not used

#### POWER SW PCB ASSY

Although PWZ3143 and PWZ3145 are different in part number, they consist of the same components.

# PD-F605, PD-F505

## ■ PCB PARTS LIST FOR PD-F605

Mark	No.	Description	Parts No.
------	-----	-------------	-----------

### MOTHER PCB ASSY

#### SEMICONDUCTORS

△	IC151	SERVO IC	CXA1372Q
△	IC201, IC202	POWER OP – AMP IC	LA6520
△	IC21	REGULATOR IC	PQ05RR12
	IC301	EFM DEMODULATION IC	CXD2508AQ
	IC351	SYSTEM. CONTROL	PD4674B
	IC405	OP – AMP IC	NJM4558D – D
	Q321	TRANSISTOR	DTC124ES
	Q341	N – FET	2SK246
	Q403, Q404	TRANSISTOR	2SD2144S
	Q405	TRANSISTOR	DTC124ES
△	D11 – D14	DIODE	S5688G
	D218	DIODE	1SS254
	D321, D341	DIODE	1SS254
	D391 – D394	DIODE	1SS254
△	D52	DIODE	S5688G
	D54	ZENNER DIODE	MTZJ18B

#### COILS AND FILTERS

	L302, L303	AXIAL INDUCTOR	LAU010J
	L321	AXIAL INDUCTOR	LAU010J
	L341	AXIAL INDUCTOR	LAU1R2J
	L351	AXIAL INDUCTOR	LAU100J
	L391	AXIAL INDUCTOR	LAU010J

#### CAPACITORS

	C11, C13	CERAMIC CAPACITOR	CKCYF103Z50
	C15 – C17	CERAMIC CAPACITOR	CKCYF103Z50
	C25	ELECT. CAPACITOR	CEAS332M16
	C26	ELECT. CAPACITOR	CEAS102M16
	C27	ELECT. CAPACITOR	CEAS330M16
	C52	ELECT. CAPACITOR	CEAS101M35
	C155	CERAMIC CAPACITOR	CKCYB561K50
	C156	CERAMIC CAPACITOR	CGCYX333K25
	C157	CERAMIC CAPACITOR	CGCYX103K25
	C158, C159	CERAMIC CAPACITOR	CGCYX104K25
	C160	ELECT. CAPACITOR	CEAS4R7M50
	C161	CERAMIC CAPACITOR	CGCYX104K25
	C162	ELECT. CAPACITOR	CEAS4R7M50
	C163	CERAMIC CAPACITOR	CGCYX104K25
	C164	CERAMIC CAPACITOR	CGCYX103K25
	C167	CERAMIC CAPACITOR	CKCYF103Z50
	C168	CERAMIC CAPACITOR	CGCYX333K25
	C169	CERAMIC CAPACITOR	CGCYX103K25
	C170	CERAMIC CAPACITOR	CKCYB332K50
	C171	CERAMIC CAPACITOR	CKCYB102K50
	C172	CERAMIC CAPACITOR	CKCYB472K50
	C205, C210	CERAMIC CAPACITOR	CKCYF103Z50
	C215	CERAMIC CAPACITOR	CKCYF103Z50
	C218	CERAMIC CAPACITOR	CGCYX103K25
	C219	CERAMIC CAPACITOR	CKCYF103Z50
	C302	CERAMIC CAPACITOR	CGCYX473K25
	C303	AUDIO FILM CAPACITOR	CFTYA104J50
	C304	CERAMIC CAPACITOR	CGCYX473K25
	C306	CERAMIC CAPACITOR	CKCYB152K50
	C307	CERAMIC CAPACITOR	CGCYX473K25

Mark	No.	Description	Parts No.
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	C309	ELECT. CAPACITOR	CEASR47M50
	C310	CERAMIC CAPACITOR	CKCYF103Z50
	C321	CERAMIC CAPACITOR	CGCYX104K25
	C322	ELECT. CAPACITOR	CEAS101M6R3
	C325	CERAMIC CAPACITOR	CKCYF103Z50
	C341	CERAMIC CAPACITOR	CCCCH100D50
	C342	CERAMIC CAPACITOR	CKCYB102K50
	C343	CERAMIC CAPACITOR	CCCCH220J50
	C351	ELECT. CAPACITOR	CEAS471M6R3
	C353, C354	CERAMIC CAPACITOR	CKCYF103Z50
	C361	CERAMIC CAPACITOR	CKCYF103Z50
	C393	CERAMIC CAPACITOR	CCCSL101J50
	C421, C422	CERAMIC CAPACITOR	CKCYB471K50
	C423 – C426	CERAMIC CAPACITOR	CCCSL181J50
	C433, C434	ELECT. CAPACITOR	CEANP220M10
	C435 – C438	CERAMIC CAPACITOR	CCCSL101J50
	C441, C442	CERAMIC CAPACITOR	CKCYB152K50

#### RESISTORS

	VR151, VR152	VR (22kΩ)	RCP1046
		Other Resistors	RD1/4PU□□□J

#### OTHERS

	CN201	CONNECTOR 6P	RKP – 533
	CN202	CONNECTOR 22P	HLEM22S – 1
	CN351	CONNECTOR 36P	HLEM36S – 1
	JA301	OPTICAL OUTPUT JACK	TOTX178
	JA391, JA392	JACK	RKN1004
	JA401	JACK	PKB1023
	X341	XTAL RES (OSC) (33.8688MHz)	ASS7000
	X351	CERAMIC RESONATOR (4.19MHz)	VSS1014

△	TERMINAL	RKC – 061
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### FUNCTION PCB ASSY

#### SEMICONDUCTORS

	D701 – D705	DIODE	1SS133
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#### SWITCHES AND RELAYS

	S701 – S715	SWITCH	PSG1006
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#### CAPACITORS

	C701	CERAMIC CAPACITOR	CKCYF103Z50
--	------	-------------------	-------------

#### RESISTORS

	R701 – R704	RESISTOR (10kΩ)	ACN7011
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#### OTHERS

	CN701	CONNECTOR	HLEM36R – 1
	V701	FL INDICATOR TUBE	PEL1089
		REMOTE SENSOR	SBX1785 – 51

### POWER SW PCB ASSY

#### SWITCHES AND RELAYS





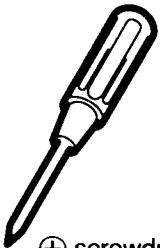
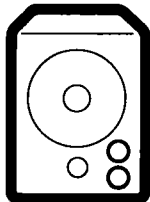
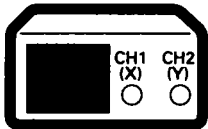
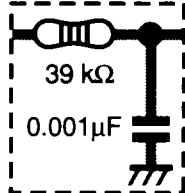
	S752	SWITCH	PSG1006
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Mark	No.	Description	Parts No.
<b>HOME SW PCB ASSY</b>			
<b>SWITCHES AND RELAYS</b>			
	S811	PUSH SWITCH	DSG1048
<b>HOOD SW PCB ASSY</b>			
<b>SWITCHES AND RELAYS</b>			
	S821	PUSH SWITCH	DSG1015
<b>OTHERS</b>			
	J821	3P JUMPER WIRE	D20PWW0305E
<b>MECHA PCB ASSY</b>			
<b>SEMICONDUCTORS</b>			
	Q651	TRANSISTOR	DTC124ES
	D651	LED	VRPG5615S
<b>RESISTORS</b>			
	R651	RESISTOR(56k $\Omega$ )	ACN7012
	R652	RESISTOR(10k $\Omega$ )	ACN7011
	R653	CARBON FILM RESISTOR (220 $\Omega$ , 1/6W)	DCN1062
	R654	RESISTOR(0 $\Omega$ )	DCN1065
<b>OTHERS</b>			
	CN651	4P CONNECTOR	173979 - 4
	CN652	12P CONNECTOR	12FMZ - AST
	CN653	22P CONNECTOR	SLEM22R - 2
<b>SENSOR PCB ASSY</b>			
<b>SEMICONDUCTORS</b>			
	D652	PHOTO INTERRUPTER	GP1S24
<b>OTHERS</b>			
	J652	3P JUMPER WIRE	D20PWW0315E
<b>MOTOR PCB ASSY</b>			
<b>OTHERS</b>			
		LOADING MOTOR	VXM1034
<b>SW PCB ASSY</b>			
<b>SWITCHES AND RELAYS</b>			
	S651, S652	PUSH SWITCH	VSG1006
<b>OTHERS</b>			
	J656	3P JUMPER WIRE	D20PWW0315E
<b>MECHANISM BOARD ASSY</b>			
<b>SWITCHES AND RELAYS</b>			
	S610	PUSH SWITCH	DSG1016
<b>OTHERS</b>			
	CN610		173979 - 4

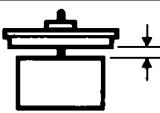
## 6. ADJUSTMENTS (調整方法)

### 6.1 PREPARATIONS (準備)

#### 1.1 Jigs and Measuring Instruments (使用測定器/治工具類)

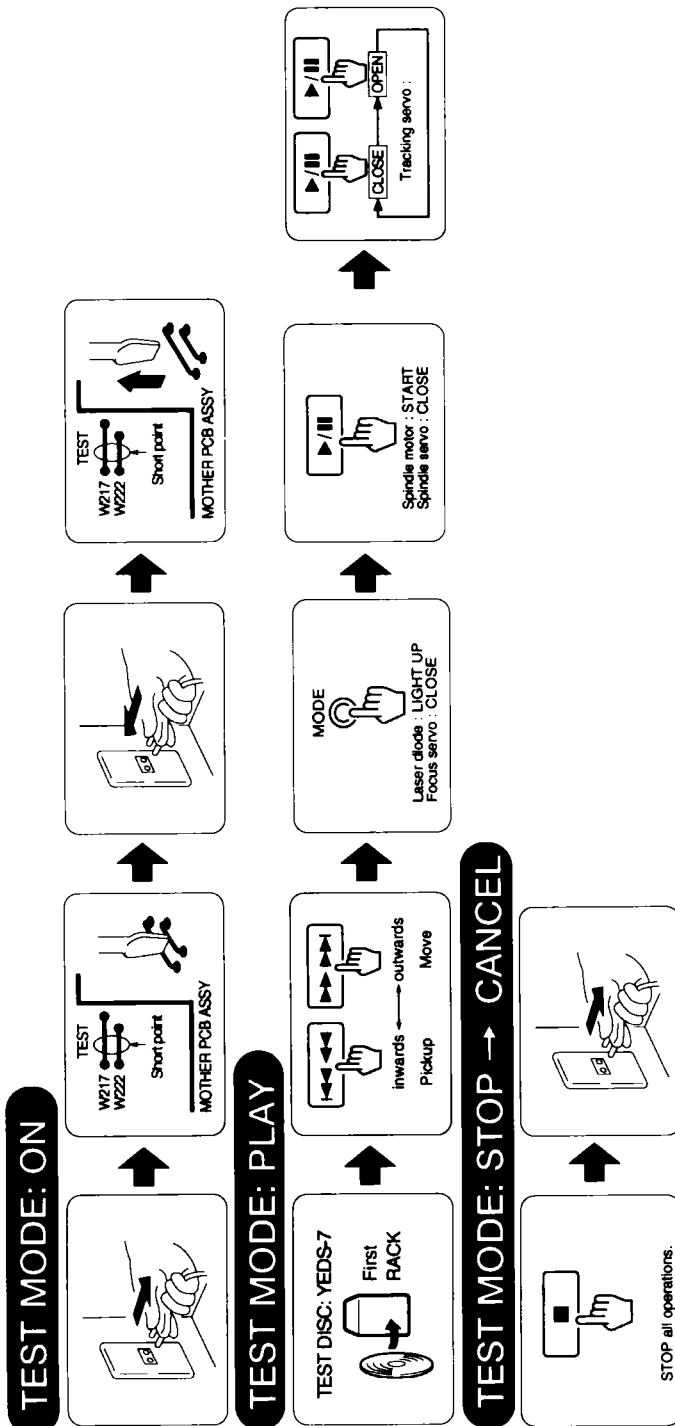
 <p>CD TEST DISC (YEDS-7)</p>	 <p>⊖ Precise screwdriver</p>	 <p>⊖ screwdriver (small)</p>	 <p>⊕ screwdriver (medium)</p>
 <p>⊕ screwdriver (large)</p>	 <p>Low-frequency oscillator</p>	 <p>Dual-trace oscilloscope (10 : 1 probe)</p>	 <p>Low pass filter (39 kΩ + 0.001μF)</p>

#### 1.2 Necessary Adjustment Points (調整に必要な項目)

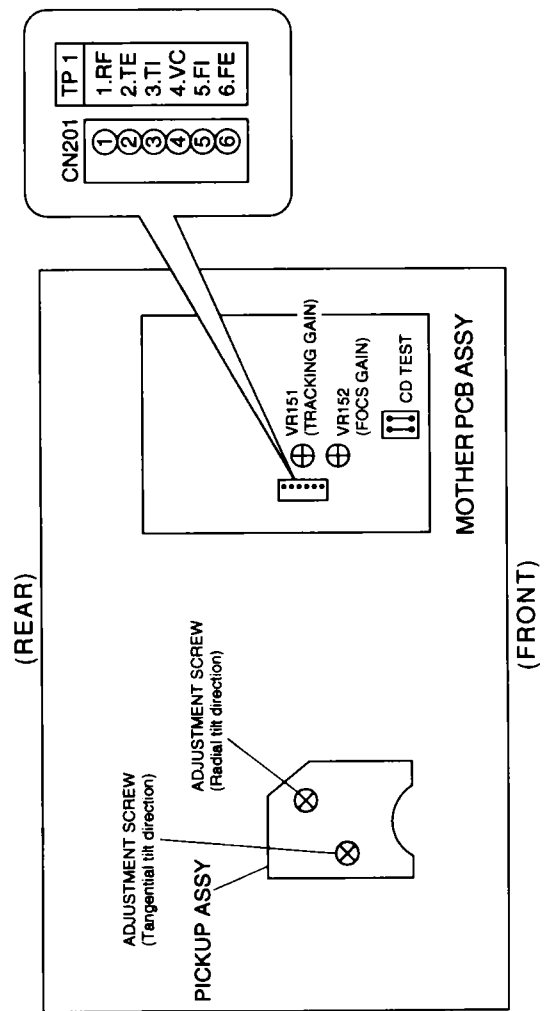
When (このような時)	Adjustment points
Exchange <b>PICKUP</b> (ピックアップを交換した時)	1.2.3.4.5.6. → Page 24~26
Exchange <b>CD ASSY</b> (CD ASSYを交換した時)	1.2.3.4.5.6. → Page 24~26
Exchange <b>SERVO MECH ASSY</b> (サーボメカ ASSYを交換した時)	1.2.3.4.5.6. → Page 24~26
Exchange <b>SPINDLE MOTOR</b> (スピンドルモーターを交換した時)	 ADJ → Page 8

## 6.2 ADJUSTMENT (調整)

## 1 How to Start/Cancel Test Mode (テストモードの設定/解除)



## 2 Adjustment Locations (テストポイントと調整用VRの位置)

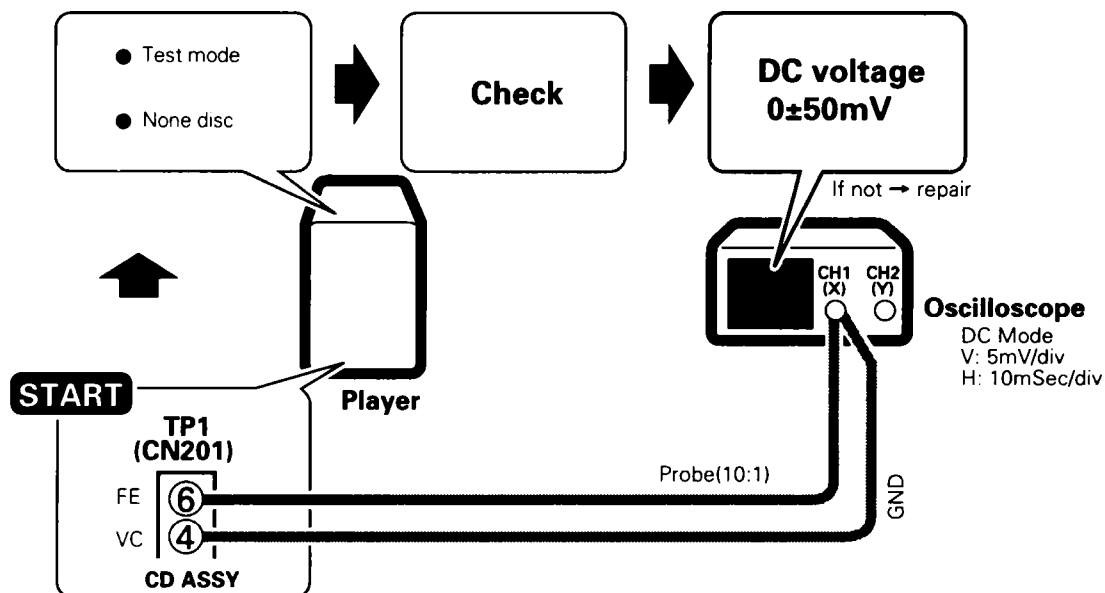




## 6.3 Check and Adjustment (確認、調整)

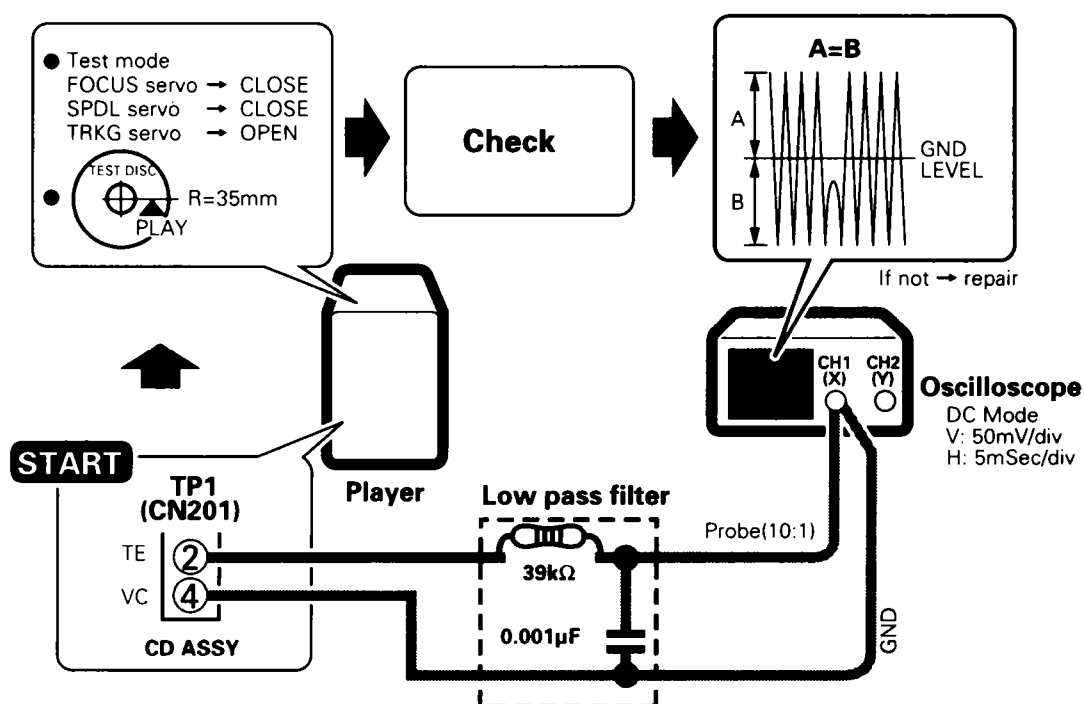
### 1. Focus Offset Check

(フォーカスオフセット確認)



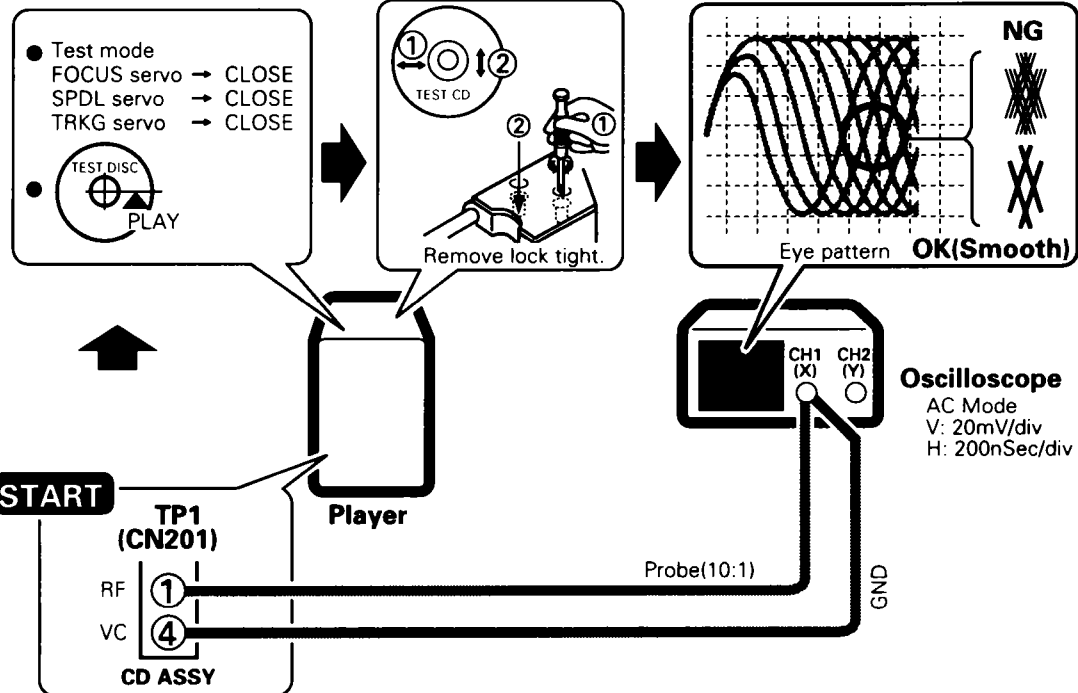
### 2. Tracking Error Balance Check

(トラッキングエラーバランス確認)



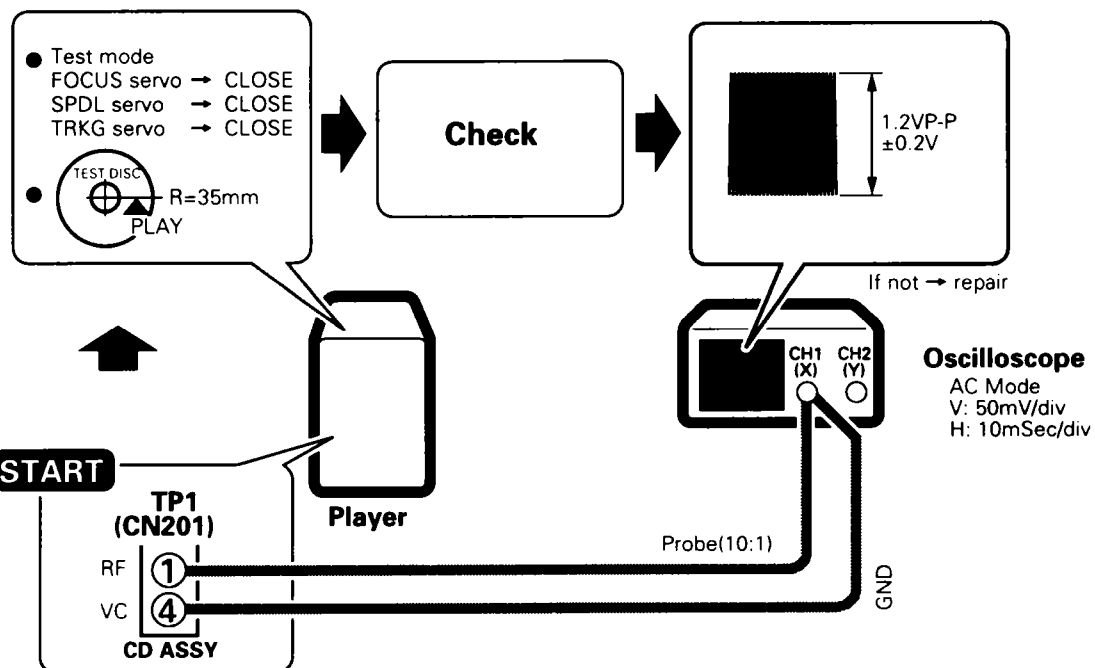
### 3. PICKUP ①RADIAL / ②TANGENTIAL DIRECTION TILT ADJUSTMENT

(ピックアップ①ラジアル方向②タンジェンシャル方向の傾き調整)



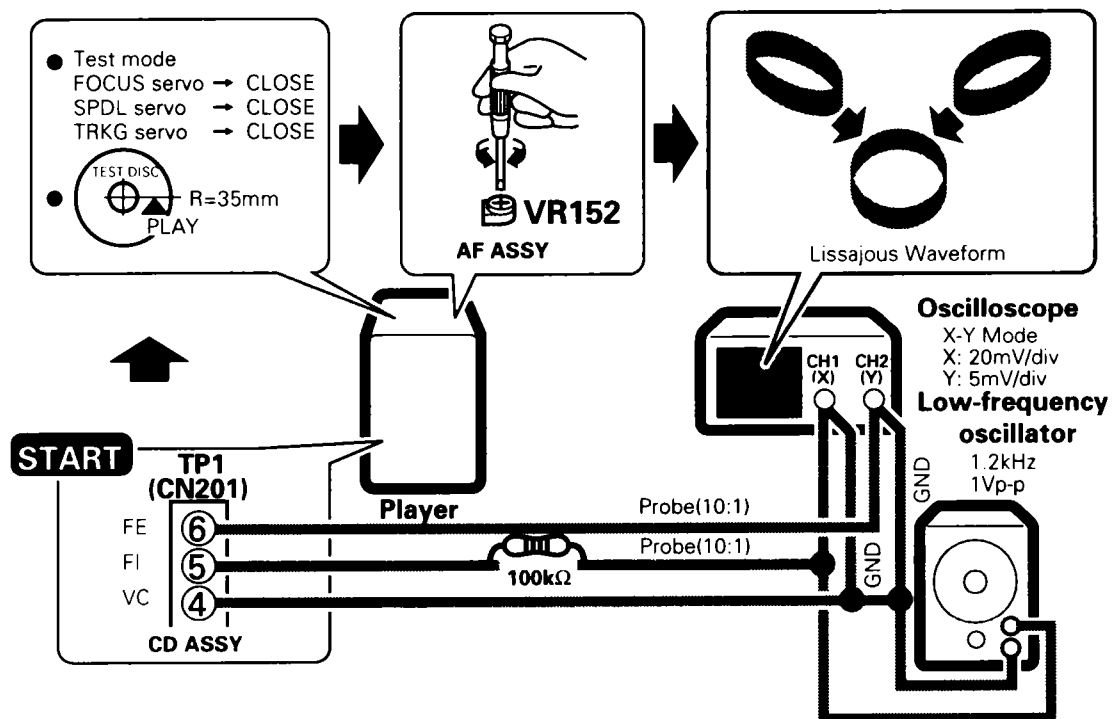
### 4. RF LEVEL CHECK

(RFレベル確認)



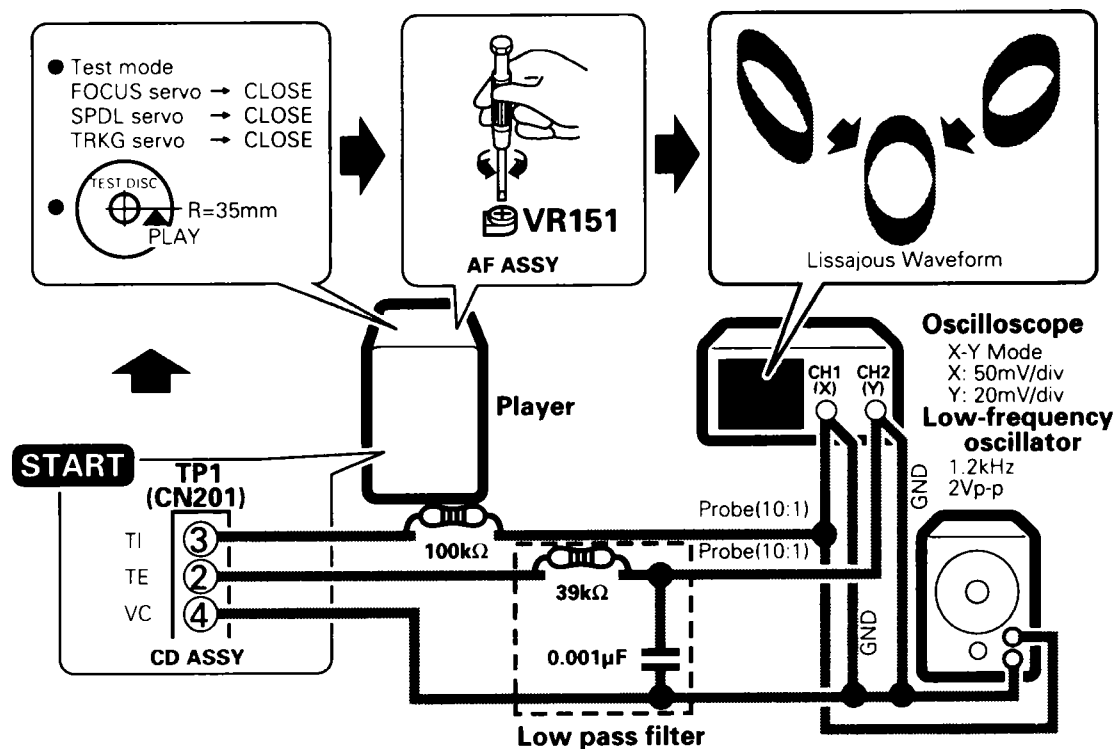
## 5. Focus Servo Loop Gain Adjustment

(フォーカスサーボループゲイン調整)



## 6. Tracking Servo Loop Gain Adjustment

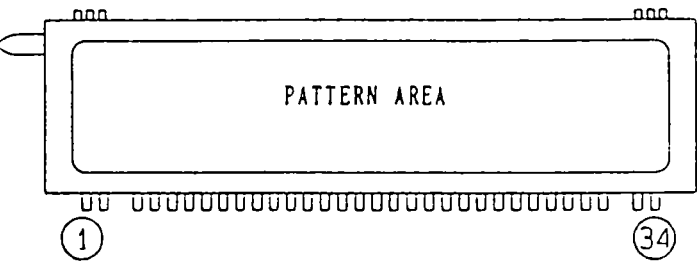
(トラッキングサーボループゲイン調整)



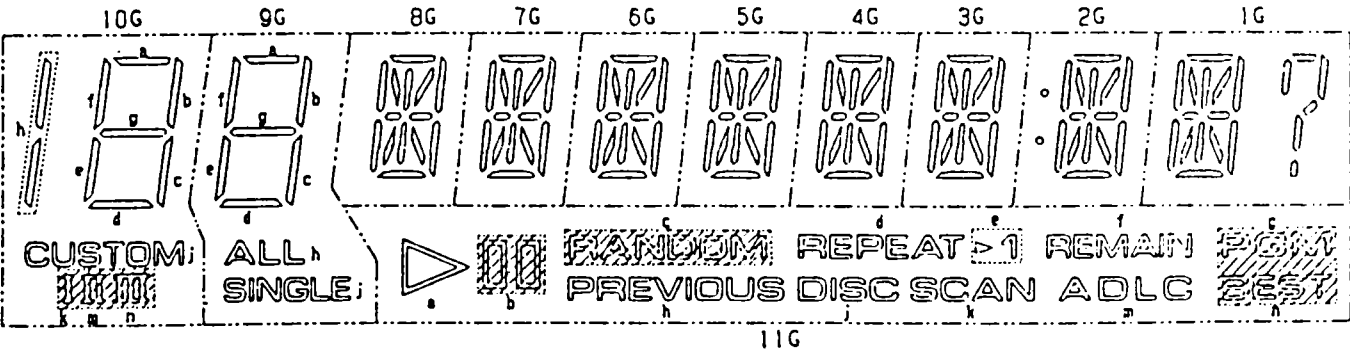
7. FL INFORMATION

- PEL1089 (V701 : FUNCTION PCB ASSY)
- FL TUBE

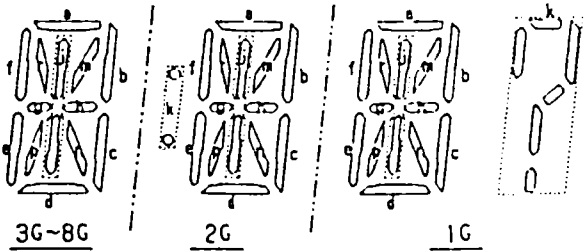
PIN LOCATION



GRID ASSIGNMENT



COLOR OF ILLUMINATION  
Blue-green : Unless specified segment color  
Mandarin :



PIN CONNECTION

Pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Assignment	F	F	NP	11G	10G	9G	8G	7G	6G	5G	4G	3G	2G	1G	NL	NL	NL	p	r	a

Pin No.	21	22	23	24	25	26	27	28	29	30	31	32	33	34
Assignment	b	c	d	e	f	g	h	j	k	m	n	NP	F	F

NOTE) F : Filament    1G~11G : Grid    a~h, j, k, m, n, p, r : Anode    NP : No Pin NL : No Lead

8. IC INFORMATION

• The information shown in the list is basic information and may not correspond exactly to that shown in the schematic diagrams.

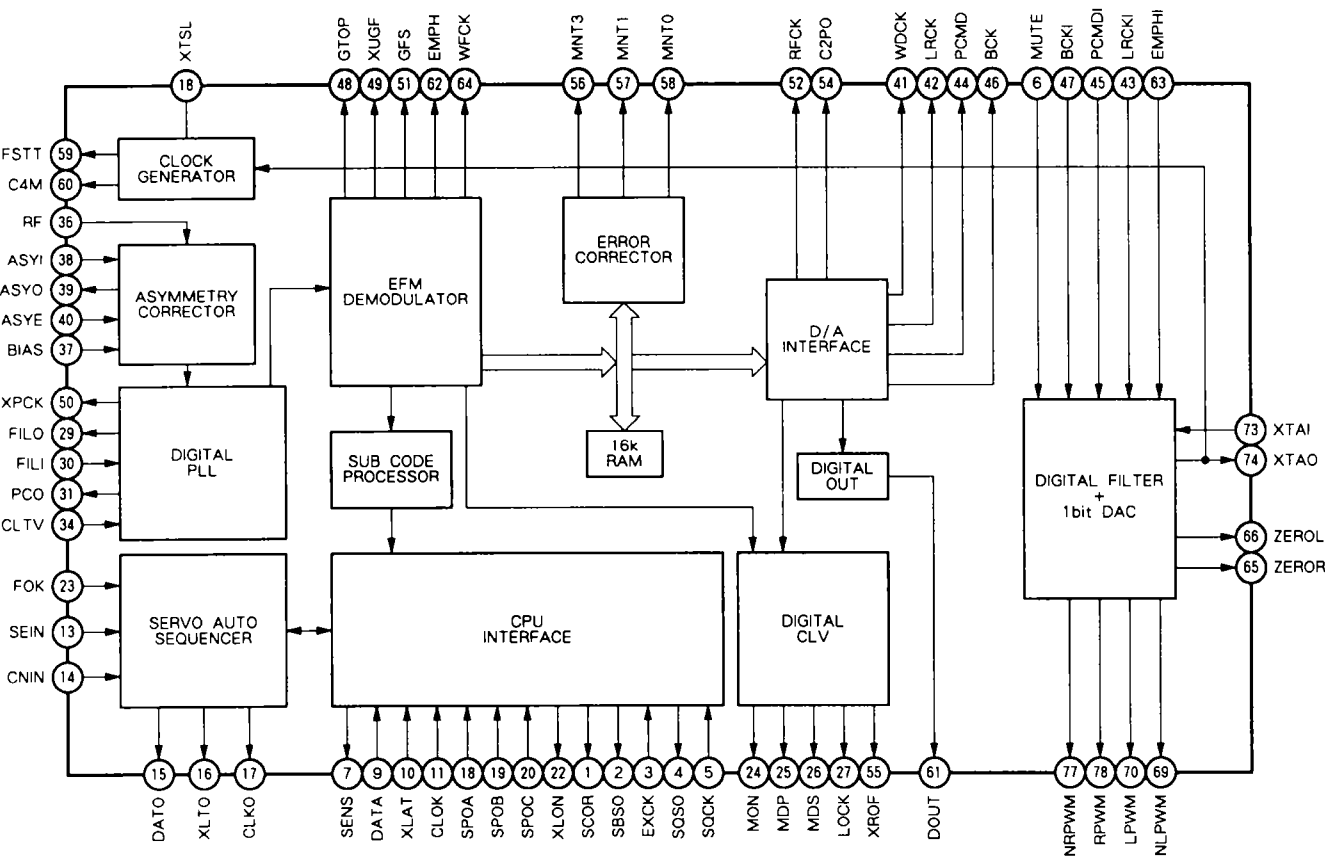
■ CXD2508AQ (IC301 : MOTHER PCB ASSY)

• Digital signal processor for CD

• Pin Arrangement



• Block Diagram



## ● Pin Function

No.	Pin Name	I/O	Function
1	SCOR	O	H when detecting subcode sync. either S0 or S1.
2	SBSO	O	Serial output of SUBP – W.
3	EXCK	I	Clock input for SBSO lead out.
4	SQSO	O	Serial output of SUBQ 80 bit.
5	SQCK	I	Clock input for SQSO lead out.
6	MUTE	I	Mute for H and release for L (DAC section).
7	SENS	O	SENS output to CPU.
8	XRST	I	System reset. Reset for L.
9	DATA	I	Serial data input from CPU.
10	XLAT	I	Latch input from CPU and latch the serial data at falling edge.
11	CLOK	I	Serial data transferring clock input from CPU.
12	VSS	—	GND.
13	SEIN	I	Sens input from SSP.
14	CNIN	I	Count signal input of track jump.
15	DATO	O	Serial data output to SSP.
16	XLTO	O	Serial data latch output to SSP and latch at falling edge.
17	CLKO	O	Serial data transferring clock output to SSP.
18	SPOA	I	Microcomputer expansion interface. (Input A)
19	SPOB	I	Microcomputer expansion interface. (Input B)
20	SPOC	I	Microcomputer expansion interface. (Input C)
21	XTSL	I	Xtal selection input pin, L when Xtal is 16.9344MHz and H when Xtal is 33.8688MHz.
22	XLON	O	Microcomputer expansion interface. (Output)
23	FOK	I	Focus OK input pin. Use for SENS output and servo auto sequencer.
24	MON	O	ON/OFF control output of spindle motor.
25	MDP	O	Servo control of spindle motor.
26	MDS	O	Servo control of spindle motor.
27	LOCK	O	Sample the GFS with 460Hz. H output when GFS is H and L output when GFS is L for series of eight times.
28	TEST	I	TEST pin. GND at normal use.
29	FILO	O	Filter output for master PLL (sleave=digital PLL).
30	FILI	I	Filter input for master PLL.
31	PCO	O	Charge pump output for master PLL.
32	VDD	—	Digital power supply for DSP.
33	AVSS1	—	Analog GND for DSP.
34	CLTV	I	VCO control voltage input for master PLL.
35	AVDD1	—	Analog power supply for DSP.
36	RF	I	EFM signal input.
37	BIAS	I	Constant-current input of the asymmetry correction circuit.
38	ASYI	I	Comparison voltage input of the asymmetry correction circuit.
39	ASYO	O	EFM full swing output. (L=VSS, H=VDD).
40	ASYE	I	L : Asymmetry correction OFF, H : Asymmetry correction ON.
41	WDCK	O	D/A interface for 48 bit slot and word clock (2FS) .
42	LRCK	O	D/A interface for 48 bit slot and LR clock (FS).
43	LRCKI	I	LR clock input to DAC (48 bit slot).

## PD-F605, PD-F505

No.	Pin Name	I/O	Function
44	PCMD	O	D/A interface and serial data (2'SCOMP, MSB fast)
45	PCMDI	I	Audio data input to DAC (48 bit slot).
46	BCK	O	D/A interface and bit clock.
47	BCKI	I	Bit clock input to DAC (48 bit slot).
48	GTOP	O	GTOP output.
49	XUGF	O	XUGF output.
50	XPCK	O	XPLCK output.
51	GFS	O	GFS output.
52	RFCK	O	RFCK output.
53	VSS	—	GND.
54	C2PO	O	C2PO output.
55	XROF	O	XROF output.
56	MNT3	O	MNT3 output.
57	MNT1	O	MNT1 output.
58	MNT0	O	MNT0 output.
59	FSTT	O	2 divided 3 frequency output of pins 73 and 74.
60	C4M	O	4.2336MHz output.
61	DOUT	O	Digital Out output pin.
62	EMPH	O	H when emphasis of playback disc is present and L for absent.
63	EMPHI	I	Deemphasis ON/OFF of DAC. (H : ON, L : OFF)
64	WFCK	O	WFCK(WRITE FRAME CLOCK) output.
65	ZEROL	O	Blank sound data detecting output. "H"(Lch) when detecting blank sound data.
66	ZEROR	O	Blank sound data detecting output. "H" (Rch) when detecting blank sound data.
67	DTS1	I	Test pin 1 for DAC. Normally L.
68	VDD	—	Digital power supply for DAC.
69	NLPWM	O	Lch PWM output. (Negative phase)
70	LPWM	O	Lch PWM output. (Positive phase)
71	AVDD2	—	Power supply for Lch PWM driver.
72	AVDD3	—	Power supply for Xtal.
73	XTAI	I	Xtal oscillation circuit input of 33.8688MHz
74	XTAO	O	Xtal oscillation circuit output of 33.8688MHz
75	AVSS3	—	GND for Xtal.
76	AVSS2	—	GND for PWM driver.
77	NRPWM	O	Rch PWM output. (Negative phase)
78	RPWM	O	Rch PWM output. (Positive phase)
79	DTS2	I	Test pin 2 for DAC. Normally L.
80	DTS3	I	Test pin 3 for DAC. Normally L.

### Note:

- PCMD is 2'S complement output of MSB fast.
- GTOP is monitored the protection state of Frame sync. (H : Open the sync. protection window)
- XUGF is frame sync. which is obtained from the EFM signal, is the negative pulse. This signal is former sync. protection.
- XPLCK is made PLL to agree the change point of the clock inversion of EFM PLL, falling edge and EFM signal.
- GFS signal will be H when agreeing with the frame sync. and internal insertion protection timing.
- RFCK is 136  $\mu$  period signal which is obtained by Xtal precision.
- C2PO is the signal which indicating the data error state.
- XRAOF signal is generated when 16K RAM is overed the jitter margin of  $\pm 4F$

## 9. DISASSEMBLY

### ■ REMOVE THE FRONT PANEL

- ① Remove the bonnet.
- ② - ④ Remove the screws and parts.

Note: Remove the screw in step ④ with the hood closed.

- ④ Remove the fixing screw in step ④ from the disc rack, then remove the hook from disc rack boss.

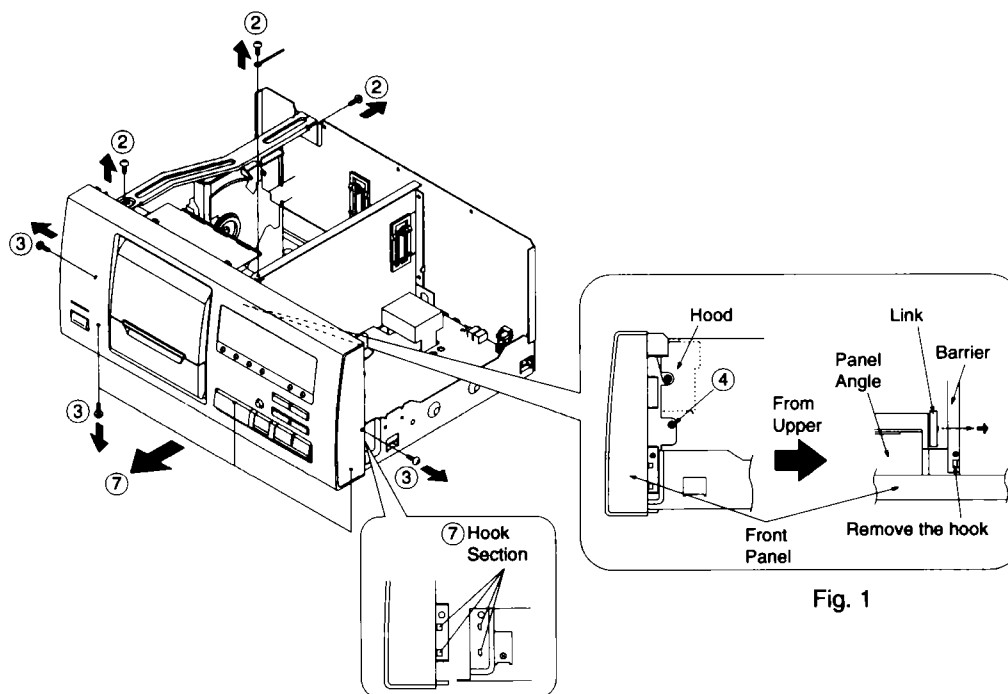


Fig. 2

- ⑤ - ⑥ Remove each part and wire.

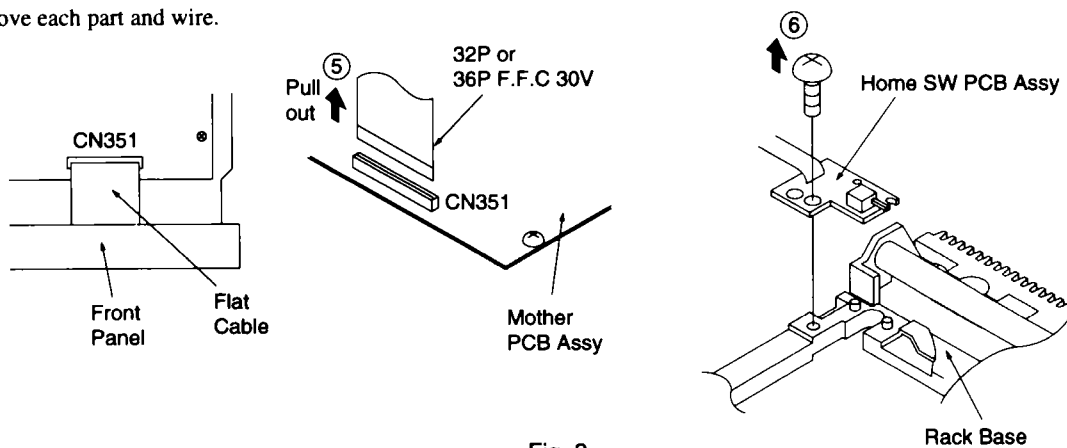


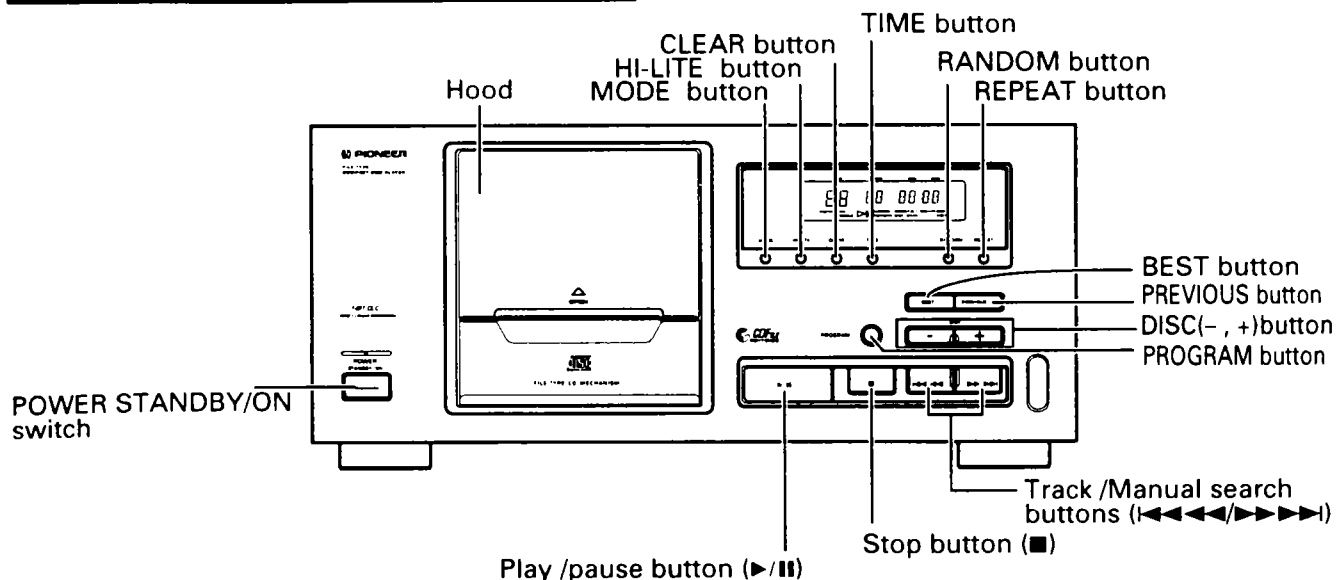
Fig. 3

- ⑦ Remove the front panel.
- ⑦ Shift the front panel slightly toward you while paying attention to the right and left hooks on the chassis. (Fig.2)

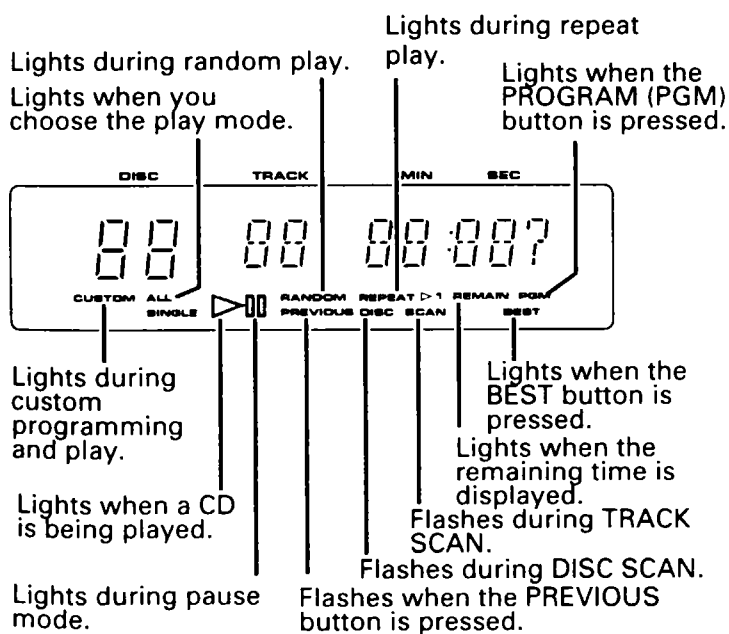


## 10. PANEL FACILITIES

### FRONT PANEL



### DISPLAY



# 11. SPECIFICATIONS

## 1. General

Type .....	Compact disc digital audio system
Power requirements	
U.S. and Canadian models .....	AC 120V, 60 Hz
U.K., European models .....	AC 220 - 240V, 50/60 Hz
Australian, New Zealand models .....	AC 220 - 240V, 50/60 Hz
Power consumption	
U.S., Canadian models .....	11W
U.K., European models .....	13W
Australian, New Zealand models .....	13W
Operating temperature .....	+5°C - +35°C (+41°F - +95°F)
Weight ( without package ) .....	4.8 kg (10 lb 9 oz.)
External dimensions .....	420(W) X 316(D) X 190(H) mm 16-9/16(W) X 12-7/16(D) X 7-1/2(H) in.

## 2. Audio section

Frequency response .....	2 Hz - 20 Hz
Level difference between channels .....	1.0 dB or less (EIAJ)
Output voltage .....	2 ± 0.3 Vrms (EIAJ)
Wow and flutter .....	less than ±0.001 % (V.PEAK) ( below measurable level ) (EIAJ)
Channels .....	2-channel ( stereo )

## 3. Output terminal

Audio line output  
Control input/output jacks (PD-F505 and U.S., Canadian, Australian and New Zealand models of PD-F605 only )  
Optical digital output jack (PD-F605 only)

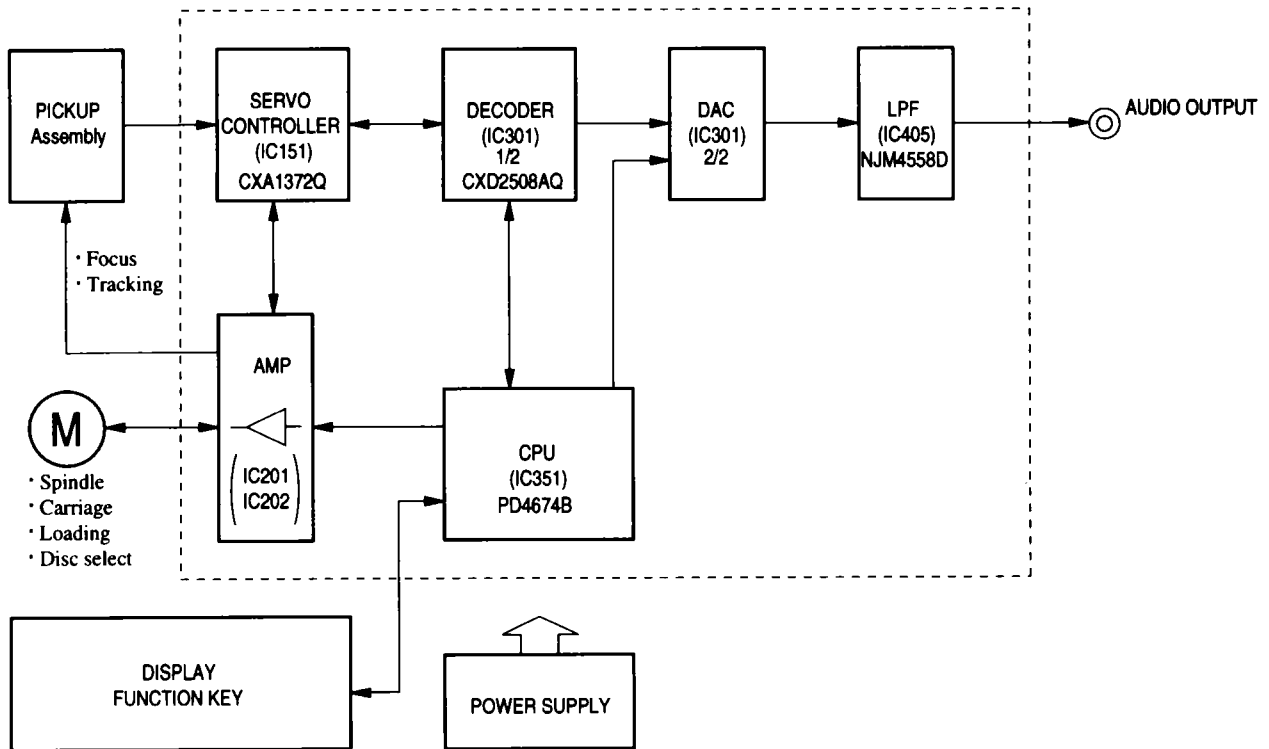
## 4. Accessories

● Remote control unit (PD-F605 only) .....	1
● Size AA/R6P dry cell batteries (PD-F605 only) .....	2
● Output cable .....	1
● Control cable (PD-F505 and U.S., Canadian, Australian and New Zealand models of PD-F605 only ) .....	1
● CD liner notes file (Except for U.S. and Canadian models) .....	1
● Index label sheet (Except for U.S. and Canadian models) .....	1
● Operating instructions .....	1

### NOTE:

*Specifications and design subject to possible modification without notice, due to improvements.*

## 12. BLOCK DIAGRAM



# 1. SAFETY INFORMATION

**VARO!**  
AVATTAESSA JA SUOJALUKITUS OHITETTAESSA OLET ALTTIINA NÄKYMÄTTÖMÄLLE LASERSÄTEILYLLE. ÄLÄ KATSO SÄTEESEEN.

**ADVERSEL:**  
USYNLIG LASERSTRÅLING VED ÅBNING NÅR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION. UNDGÅ UDSÆTTELSE FOR STRÅLING.

**VARNING!**  
OSYNLIG LASERSTRÅLING NÅR DENNA DEL ÄR ÖPPNAD OCH SPÄRREN ÄR URKOPPLAD. BETRakta EJ STRÅLEN.

**LASER**  
Kuva 1  
Lasersäteilyn varoitusmerkki

**WARNING!**  
DEVICE INCLUDES LASER DIODE WHICH EMITS INVISIBLE INFRARED RADIATION WHICH IS DANGEROUS TO EYES. THERE IS A WARNING SIGN ACCORDING TO PICTURE 1 INSIDE THE DEVICE CLOSE TO THE LASER DIODE.

**LASER**  
Picture 1  
Warning sign for laser radiation

**IMPORTANT**  
THIS PIONEER APPARATUS CONTAINS LASER OF CLASS 1. SERVICING OPERATION OF THE APPARATUS SHOULD BE DONE BY A SPECIALLY INSTRUCTED PERSON.

**LASER DIODE CHARACTERISTICS**  
MAXIMUM OUTPUT POWER: 5 mw  
WAVELENGTH: 780-785 nm

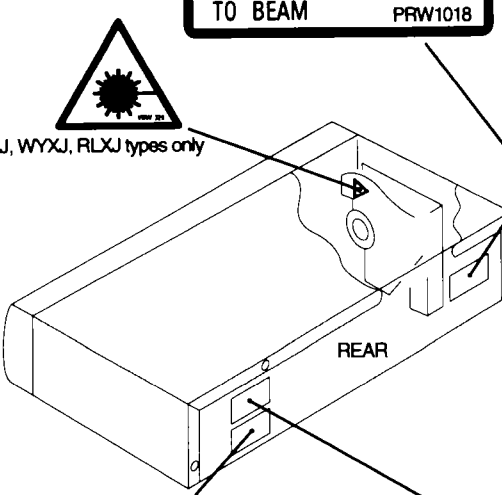
## LABEL CHECK (for WPWXJ, WVXJ, WYXJ and RLXJ types)

WPWXJ, WVXJ, RLXJ types only

WPWXJ, WVXJ, WYXJ, RLXJ types only

**CAUTION**  
INVISIBLE LASER RADIATION WHEN OPEN, AVOID EXPOSURE TO BEAM  
PRW1018

**CLASS 1 LASER PRODUCT**  
VRW-328



WPWXJ, WVXJ, WYXJ, RLXJ types only

REAR

**VARO!**  
Avatessa ja suojalukitus ohitettaessa olet alttiina näkymättömälle lasersäteilylle. Älä katso säteeseen.

**VARNING!**  
Osynlig laserstrålning när denna del är öppnad och spärren är urkopplad. Beträkta ej strålen.

PRW1233

WYXJ type only

**ADVERSEL**  
USYNLIG LASERSTRÅLING VED ÅBNING NÅR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION. UNDGÅ UDSÆTTELSE FOR STRÅLING.

**VARNING!**  
UNSICHTBARE LASER-STRÅLUNG TRIT AUS, WENN DECKEL (ODER KLAPPE) GEÖFFNET IST! NICHT DEM STRAHL AUSSETZEN!

VRW1004

WVXJ type only

**Additional Laser Caution**

**1. Laser Interlock Mechanism**  
The position of the switch (S651) for detecting loading state is detected by the system microprocessor, and the design prevents laser diode oscillation when the switch (S651) is not on CLMP terminal side (CLMP signal is OFF or high level). Thus, the interlock will no longer function if the switch (S651) is deliberately set to CLMP terminal side. (low level) The interlock also does not function in the test mode \*. Laser diode oscillation will continue, if pin 1 of M51593FP (IC101) on the PRE-AMP BOARD ASSY mounted on the Pickup assembly is connected to GND, or pin 19 is connected to low level (ON), or else the terminals of Q101 are shorted to each other (fault condition).

**2. When the cover is opened, close viewing of the objective lens with the naked eye will cause exposure to a Class 1 laser beam.**

\* : Refer to page 23 on the service manual RRV1457.

## 2. CONTRAST OF MISCELLANEOUS PARTS

### NOTES:

- Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.
- The  $\Delta$  mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- Parts marked by "●" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.
- When ordering resistors, first convert resistance values into code form as shown in the following examples.

Ex.1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J = 5%, and K = 10%).

560 $\Omega$	→	56 × 10 <sup>1</sup>	→	561	.....	RD1/4PU561J
47k $\Omega$	→	47 × 10 <sup>3</sup>	→	473	.....	RD1/4PU473J
0.5 $\Omega$	→	0R5	.....			RN2H0R5K
1 $\Omega$	→	1R0	.....			RS1P1R0K

Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62k $\Omega$	→	562 × 10 <sup>1</sup>	→	5621	.....	RN1/4PC5621F
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### ■ CONTRAST OF PD-F605/WYXJ, WVXJ, WPWXJ, RDXJ AND RLXJ TYPES

PD-F605/WYXJ, WVXJ, WPWXJ, RDXJ, RLXJ and PD-F605/KUXJ have the same construction except for the following:

Mark	Symbol & Description	Part No.						Remarks
		PD-F605 /KUXJ	PD-F605 /WYXJ	PD-F605 /WVXJ	PD-F605 /WPWXJ	PD-F605 /RDXJ	PD-F605 /RLXJ	
$\Delta$ NSP	Mother PCB Assy	PWM1989	PWM1990	PWM1990	PWM1996	PWM1993	PWM1991	
	SUB PCB Assy	PWX1434	PWX1435	PWX1435	PWX1435	PWX1435	PWX1435	
	Function PCB Assy	PWZ3134	PWZ3135	PWZ3135	PWZ3135	PWZ3135	PWZ3135	
$\Delta$ NSP	Power SW PCB Assy	PWZ3145	PWZ3146	PWZ3146	PWZ3146	PWZ3146	PWZ3146	
$\Delta$	Power transformer (AC120V)	PTT1237	Not used	Not used	Not used	Not used	Not used	
$\Delta$	Power transformer (AC220 – 240V)	Not used	PTT1236	PTT1236	PTT1236	Not used	Not used	
$\Delta$	Power transformer (AC110 – 127V/220 – 240V)	Not used	Not used	Not used	Not used	PTT1238	PTT1238	
$\Delta$	AC Power Cord	PDG1015	PDG1003	PDG1055	ADG1123	PDG1056	PDG1003	
$\Delta$	Fuse (T5A) (For AC power cord)	Not used	Not used	PEK1003	Not used	Not used	Not used	*1. No.1
$\Delta$	Strain Relief	CM – 22C	CM – 22B	CM – 22B	CM – 22B	CM – 22B	CM – 22B	
	Rear Base	PNA2258	PNA2261	PNA2261	PNA2287	PNA2288	PNA2289	
	Foot Assy	AEC1531	Not used	Not used	Not used	AEC1531	Not used	
	Insulator	Not used	PNW1912	PNW1912	PNW1912	Not used	PNW1912	*1. No.2
	Rubber Sheet	AEB1111	Not used	Not used	Not used	AEB1111	Not used	
	Control Panel	PNW2649	PNW2653	PNW2653	PNW2653	PNW2654	PNW2653	
	Display Window	PAM1702	PAM1714	PAM1714	PAM1702	PAM1702	PAM1702	
	LED Lens	Not used	PNW2019	PNW2019	PNW2019	PNW2019	PNW2019	*1. No.3
	Caution Label (HE)	Not used	PRW1233	Not used	Not used	Not used	Not used	*1. No.4
	Caution Label (F)	Not used	VRW – 328	VRW – 328	VRW – 328	Not used	VRW – 328	*1. No.5
	Caution Label (G)	Not used	VRW – 329	VRW – 329	VRW – 329	Not used	VRW – 329	*1. No.6
	Caution Label	Not used	Not used	PRW1018	PRW1018	Not used	PRW1018	*1. No.7
	Caution Label	Not used	VRW1094	Not used	Not used	Not used	Not used	*1. No.8
	65 Label	ORW1069	Not used	Not used	Not used	Not used	Not used	
	Packing Case	PHG2162	PHG2164	PHG2190	PHG2205	PHG2191	PHG2205	
	Index Label	Not used	PRW1422	PRW1422	PRW1422	PRW1422	PRW1422	*1. No.9
	Caution 220V Label	Not used	Not used	Not used	Not used	ARR1003	ARR1003	*1. No.10
	Liner Note File	Not used	PHN1051	PHN1051	PHN1051	PHN1051	PHN1051	*1. No.11
	Rear Spacer	Not used	Not used	PHC1087	Not used	Not used	Not used	*1. No.12
	Operating instructions (English)	PRB1234	PRB1234	PRB1234	PRB1234	Not used	Not used	
	Operating instructions (English/Spanish/Chinese)	Not used	Not used	Not used	Not used	PRE1226	PRE1226	
	Operating instructions (French/German/Italian/Dutch/Swedish/Spanish/Portuguese)	Not used	PRD1006	Not used	Not used	Not used	Not used	
NSP	Cord with Mini Plug	PDE1247	Not used	Not used	PDE1247	Not used	Not used	
	Warranty card	ARY1051	ARY7009	ARY7009	PRY1003	Not used	Not used	

Note \*1 : The numbers in the remarks column correspond to the numbers on the exploded views.

# PD-F605, PD-F505

## ■ CONTRAST OF PD-F505/WPWXJ AND RDXJ TYPES

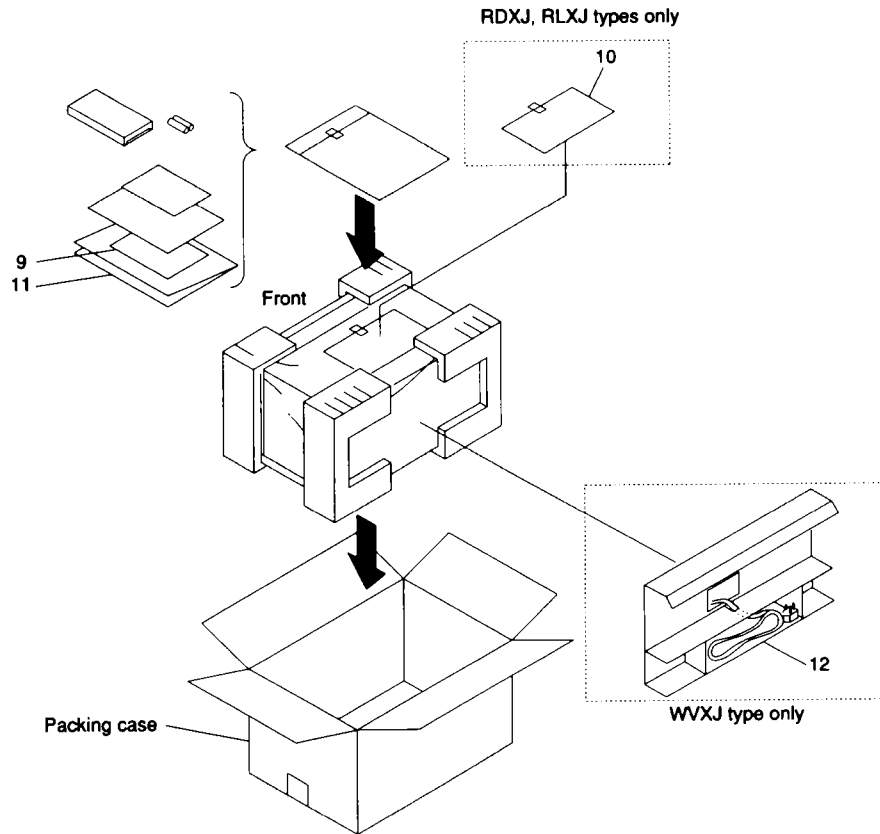
PD-F505/WPWXJ, RDXJ and PD-F505/KUXJ types have the same construction except for the following:

Mark	Symbol & Description	Part No.			Remarks
		PD-F505/KUXJ	PD-F505/WPWXJ	PD-F505/RDXJ	
△ NSP	Mother PCB Assy	PWM1984	PWM1985	PWM1988	
	SUB PCB Assy	PWX1429	PWX1430	PWX1430	
	└Function PCB Assy	PWZ3129	PWZ3130	PWZ3130	
NSP	└Power SW PCB Assy	PWZ3143	PWZ3144	PWZ3144	
△	Power transformer (AC120V)	PTT1237	Not used	Not use	
△	Power transformer (AC220 – 240V)	Not used	PTT1236	Not used	
△	Power transformer (AC110 – 127V/220 – 240V)	Not used	Not used	PTT1238	
△	AC Power Cord	PDG1015	ADG1123	PDG1056	
△	Strain Relief	CM – 22C	CM – 22B	CM – 22B	
	Rear Base	PNA2241	PNA2290	PNA2291	
	Foot Assy	AEC1531	Not used	AEC1531	
	Insulator	Not used	PNW1912	Not used	*1. No.2
	Rubber Sheet	AEB1111	Not used	AEB1111	
	Control Panel	PNW2617	PNW2651	PNW2652	
	32P F.F.C/30V	PDD1167	Not used	Not used	
	34P F.F.C/30V	Not used	PDD1168	PDD1168	*2
	LED Lens	Not used	PNW2019	PNW2019	*1. No.3
	Caution Label (F)	Not used	VRW – 328	Not used	*1. No.5
	Caution Label (G)	Not used	VRW – 329	Not used	*1. No.6
	Caution Label	Not used	PRW1018	Not used	*1. No.7
	65 Label	ORW1069	Not used	Not used	
	Packing Case	PHG2156	PHG2204	PHG2192	
	Index Label	Not used	PRW1422	PRW1422	*1. No.9
	Caution 220V Label	Not used	Not used	ARR1003	*1. No.10
	Liner Note File	Not used	PHN1051	PHN1051	*1. No.11
	Operating instructions (English)	PRB1234	PRB1234	Not used	
	Operating instructions (English/Spanish/Chinese)	Not used	Not used	PRE1226	
NSP	Warranty Card	ARY1051	PRY1003	Not used	

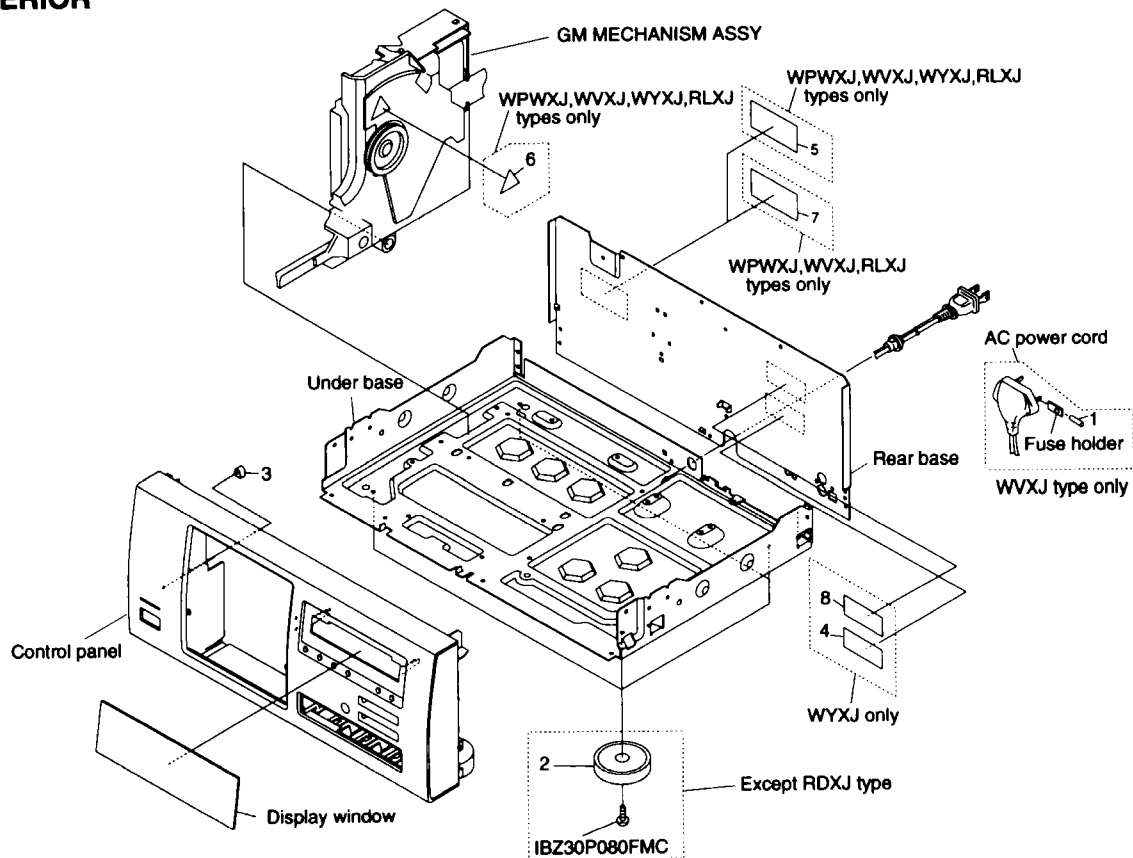
Note \*1 : The numbers in the remarks column correspond to the numbers on the exploded views.

\*2 : Refer to "PCB CONNECTION DIAGRAM"

## ● PACKING



## ● EXTERIOR



# PD-F605, PD-F505

## ■ CONTRAST OF PCB ASSEMBLIES FOR PD-F605

### MOTHER PCB ASSY

PWM1990, PWM1996, PWM1993, PWM1991 and PWM1989 have the same construction except for the following:

Mark	Symbol & Description	Part No.					Remarks
		PWM1989	PWM1990	PWM1996	PWM1993	PWM1991	
△	C132	Not used	CEAS100M16	Not used	Not used	Not used	
	C302, C304	CGCYX473K25	Not used	Not used	CGCYX473K25	Not used	
	C303	CFTYA104J50	CEAS471M6R3	CEAS471M6R3	CFTYA104J50	CEAS471M6R3	
	C310	CKCYF103Z50	Not used	Not used	CKCYF103Z50	Not used	
	C341	CCCCH100D50	Not used	Not used	CCCCH100D50	Not used	
	C342	CKCYB102K50	Not used	Not used	CKCYB102K50	Not used	
	C343	CCCCH220J50	Not used	Not used	CCCCH220J50	Not used	
	C368	Not used	CKCYB102K50	CKCYB102K50	Not used	CKCYB102K50	
	C393	CCCSL101J50	Not used	CCCSL101J50	Not used	Not used	
	C403	Not used	CCCCH120J50	CCCCH120J50	Not used	CCCCH120J50	
	C404	Not used	CCCCH220J50	CCCCH220J50	Not used	CCCCH220J50	
	C413 – C416	Not used	CFTYA104J50	CFTYA104J50	Not used	CFTYA104J50	
	C417	Not used	CGCYX104K25	CGCYX104K25	Not used	CGCYX104K25	
	C421, C422	CKCYB471K50	Not used	Not used	CKCYB471K50	Not used	
	C423 – C426	CCCSL181J50	Not used	Not used	CCCSL181J50	Not used	
	C429, C430	Not used	CCCCH390J50	CCCCH390J50	Not used	CCCCH390J50	
	C432	Not used	CEAS470M25	CEAS470M25	Not used	CEAS470M25	
	C433, C434	CEANP220M10	CEAS220M25	CEAS220M25	CEANP220M10	CEAS220M25	
	C435 – C438	CCCSL101J50	CCCCH390J50	CCCCH390J50	CCCSL101J50	CCCCH390J50	
	C441, C442 (1500pF)	CKCYB152K50	PCL1030	PCL1030	CKCYB152K50	PCL1030	
	C461	Not used	CKCYF103Z50	CKCYF103Z50	Not used	CKCYF103Z50	
	D321, D341	1SS254	Not used	Not used	1SS254	Not used	
	D352	Not used	Not used	Not used	1SS254	Not used	
	D391 – D394	1SS254	Not used	1SS254	Not used	Not used	
	IC31	Not used	ICP – N10	ICP – N10	ICP – N10	ICP – N10	
	IC401	Not used	PD2026B(L)	PD2026B(L)	Not used	PD2026B(L)	
	JA391, JA392	RKN1004	Not used	RKN1004	Not used	Not used	
	L302, L303	LAU010J	Not used	Not used	LAU010J	Not used	
	L341	LAU1R2J	Not used	Not used	LAU1R2J	Not used	
	L372	Not used	LAUR47J	LAUR47J	Not used	LAUR47J	
	L391	LAU010J	Not used	LAU010J	Not used	Not used	
	Q322	Not used	DTC124ES	DTC124ES	Not used	DTC124ES	
	Q341	2SK246	Not used	Not used	2SK246	Not used	
	R310 – R312, R405 – R410	Not used	RD1/4PU471J	RD1/4PU471J	Not used	RD1/4PU471J	
	R341	RD1/4PU511J	Not used	Not used	RD1/4PU511J	Not used	
	R342, R366	RD1/4PU105J	Not used	Not used	RD1/4PU105J	Not used	
	R351	Not used	RD1/4PU221J	RD1/4PU221J	RD1/4PU151J	RD1/4PU221J	
	R364, R367	Not used	RD1/4PU103J	RD1/4PU103J	Not used	RD1/4PU103J	
	R365	RD1/4PU103J	Not used	Not used	RD1/4PU103J	Not used	
	R391	RD1/4PU244J	Not used	RD1/4PU244J	Not used	Not used	
	R392	RD1/4PU102J	Not used	RD1/4PU102J	Not used	Not used	
	R401	Not used	RD1/4PU102J	RD1/4PU102J	Not used	RD1/4PU102J	
	R419 – R422	RD1/4PU562J	Not used	Not used	RD1/4PU562J	Not used	
	R427 – R430	RD1/4PU153J	RD1/4PU223J	RD1/4PU223J	RD1/4PU153J	RD1/4PU223J	
	R435 – R438	RD1/4PU333J	RD1/4PU163J	RD1/4PU163J	RD1/4PU333J	RD1/4PU163J	
	R439 – R442	RD1/4PU563J	RD1/4PU433J	RD1/4PU433J	RD1/4PU563J	RD1/4PU433J	
	S5	Not used	Not used	Not used	PSB1006	PSB1006	
	X341 (4.19MHz)	ASS7000	Not used	Not used	ASS7000	Not used	
	X401 (16.9344MHz)	Not used	PSS1008	PSS1008	Not used	PSS1008	



# FUNCTION PCB ASSY

Although PWZ3134 and PWZ3135 are different in part number, they consist of the same components.

# POWER SW PCB ASSY

PWZ3146 and PWZ3145 have the same construction except for the following:

Mark	Symbol & Description	Part No.		Remarks
		PWZ3145	PWZ3146	
	D751	Not used	PCX1019	

## ■ CONTRAST OF PCB ASSEMBLIES FOR PD-F505

# MOTHER PCB ASSY

PWM1985, PWM1988 and PWM1984 have the same construction except for the following:

Mark	Symbol & Description	Part No.			Remarks
		PWM1984	PWM1985	PWM1988	
△	C302, C304	CGCYX473K25	Not used	CGCYX473K25	
	C303	CFTYA104J50	CEAS471M6R3	CFTYA104J50	
	C310	CKCYF103Z50	Not used	CKCYX103Z50	
	C341	CCCCH100D50	Not used	CCCCH100D50	
	C342	CKCYB102K50	Not used	CKCYB102K50	
	C343	CCCCH220J50	Not used	CCCCH220J50	
	C368	Not used	CKCYB102K50	Not used	
	C403	Not used	CCCCH120J50	Not used	
	C404	Not used	CCCCH220J50	Not used	
	C413 – C416	Not used	CFTYA104J50	Not used	
	C417	Not used	CGCYX104K25	Not used	
	C421, C422	CKCYB471K50	Not used	CKCYB471K50	
	C423 – C426	CCCSL181J50	Not used	CCCSL181J50	
	C429, C430	Not used	CCCCH390J50	Not used	
	C432	Not used	CEAS470M25	Not used	
	C433, C434	CEANP220M10	CEAS220M25	CEANP220M10	
	C435 – C438	CCCSL101J50	CCCCH390J50	CCCSL101J50	
	C441, C442 (1500pF)	CKCYB152K50	PCL1030	CKCYB152K50	
	C461	Not used	CKCYF103Z50	Not used	
	CN351	HLEM32S – 1	HLEM34S – 1	HLEM34S – 1	
	D341	1SS254	Not used	1SS254	
	D352	Not used	Not used	1SS254	
	IC31	Not used	ICP – N10	ICP – N10	
	IC401	Not used	PD2026B(L)	Not used	
	L302, L303	LAU010J	Not used	LAU010J	
	L341	LAU1R2J	Not used	LAU1R2J	
	L372	Not used	LAUR47J	Not used	
	Q322	Not used	DTC124ES	Not used	
	Q341	2SK246	Not used	2SK246	
	R310 – R312, R405 – R410	Not used	RD1/4PU471J	Not used	
	R341	RD1/4PU511J	Not used	RD1/4PU511J	
	R342, R366	RD1/4PU105J	Not used	RD1/4PU105J	
	R351	Not used	RD1/4PU221J	RD1/4PU151J	
	R364, R367	Not used	RD1/4PU103J	Not used	
	R365	RD1/4PU103J	Not used	RD1/4PU103J	
	R401	Not used	RD1/4PU102J	Not used	
	R419 – R422	RD1/4PU562J	Not used	RD1/4PU562J	
	R427 – R430	RD1/4PU153J	RD1/4PU223J	RD1/4PU153J	
	R435 – R438	RD1/4PU333J	RD1/4PU163J	RD1/4PU333J	
	R439 – R442	RD1/4PU563J	RD1/4PU433J	RD1/4PU563J	
	S5	Not used	Not used	PSB1006	
	X341 (4.19MHz)	ASS7000	Not used	ASS7000	
	X401 (16.9344MHz)	Not used	PSS1008	Not used	

## PD-F605, PD-F505

### FUNCTION PCB ASSY

PWZ3130 and PWZ3129 have the same construction except for the following:

Mark	Symbol & Description	Part No.		Remarks
		PWZ3129	PWZ3130	
	CN701	HLEM32R - 1	HLEM34R - 1	

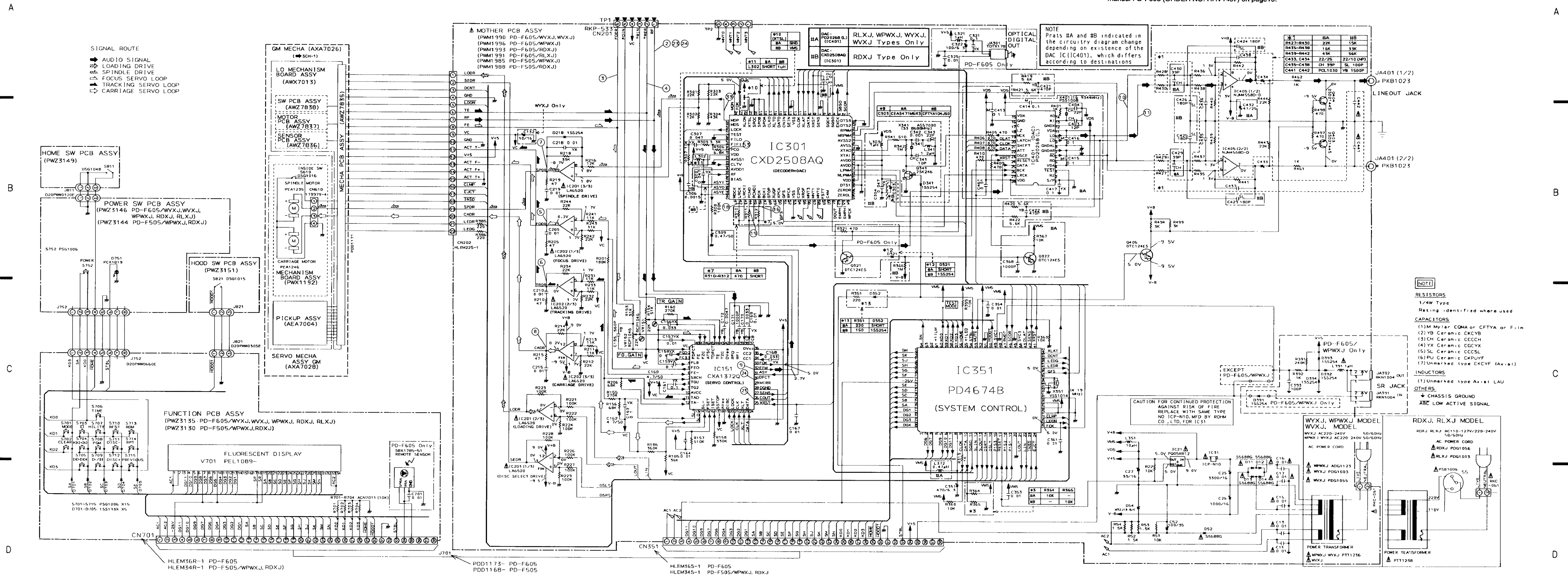
### POWER SW PCB ASSY

PWZ3144 and PWZ3143 have the same construction except for the following:

Mark	Symbol & Description	Part No.		Remarks
		PWZ3143	PWZ3144	
	D751	Not used	PCX1019	

SCHEMATIC DIAGRAM

Note:  
The numbers marked with a circle show the number of each measuring point, which correspond to the number in the service manual PD-F605 (ORDER NO. RRV1457) on page13.



- RESISTORS  
1/4W Type  
Rating identified where used
- CAPACITORS  
(1)M Mylar COMA or CFTYA or Film  
(2)YB Ceramic CKCYB  
(3)CH Ceramic CCCCCH  
(4)YX Ceramic CCCCX  
(5)SL Ceramic CCCCCL  
(6)DU Ceramic CKPUVF  
(7)Unmarked type CKCYF (Axial)
- INDUCTORS  
(1)Unmarked type Axial LAU
- OTHERS  
CHASSIS GROUND  
ABC LOW ACTIVE SIGNAL

# Service Manual

ORDER NO.  
**RRV 1604**

FILE-TYPE CD PLAYER

# PD-F605

## PD-F505

- Refer to the service manual RRV1457 for PD-F605/KUXJ.

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Type	Model		Power Requirement	The voltage can be converted by the following method.
	PD-F605	PD-F505		
WPWXJ	O	O	AC220 – 240V	_____
WYXJ	O	X	AC220 – 240V	_____
WVXJ	O	X	AC220 – 240V	_____
RDXJ	O	O	AC110 – 127V/220 – 240V	With the voltage selector
RLXJ	O	X	AC110 – 120V/220 – 240V	With the voltage selector

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